

A C C S

See Page 15

NEW
1/2-TON
VEHICLE
RANGE

See Pages 3 and 12

VOL. LXXXII No. 2121

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as a newspaper]

LONDON, JANUARY 9, 1960

PRICE ONE SHILLING

Consultation on the Railways

WHAT it is now fashionable to call "cross-fertilisation of ideas" is a valuable process in any business and can be of particular merit in an undertaking, such as British Railways, in the throes of reorganisation and modernisation. The elaborate machinery of joint consultation evolved by the British Transport Commission in discussion with the unions provides for exchanges of view at local, regional and national levels. This practical co-operation is based on the ideas that in such a large concern no one, however good at his job or whatever position he holds, can have thought of and provided for every possibility, every snag, every problem that is likely to arise in the detailed working out of a new scheme and that, even in jobs which have been going on in much the same way for years, there is scope for improvement, if only all concerned can discuss it fully and frankly. The system makes it feasible that through the consultative committees any piece of work can quickly be discussed on the spot by people with local knowledge. In addition to the consultation arrangements, the British Railways Joint Productivity Council was set up in 1955 to consider ways and means by which greater railway efficiency could be achieved, especially in view of the combined effects of modernisation and the fierce competition now being experienced from other forms of transport. Unfortunately there has been some restriction in the scope of its deliberations as in May last year the National Union of Railwaymen announced that it would withdraw from the consultative machinery because the Commission was not prepared to concede the closed shop principle. This is still the position, for although the B.T.C., as Sir Brian Robertson said in a recent message, gives facilities and encouragement to staff to join the appropriate union, it must be a matter for the individual; happily the N.U.R. now feels able to accept such circumstances and has returned to the fold. The union will therefore be represented at the next Productivity Council meeting on January 29.

East Kent Buses

REFERENCE was made at the annual general meeting of the East Kent Car Co., Limited, in the statement by the chairman, Mr. R. P. Beddow, to the profitable nature of the inclusive tours business. Although it was small in proportion to the whole it was an interesting thought that mileage operated by East Kent coaches in the Dolomites helped to provide winter services, unremunerative in themselves, at, for example, Dymchurch. The company is adapting itself to ever-changing conditions—last year revenue was adversely affected, both on local services and on the express service to London, by railway electrification in the northern and central parts of the operating area. Thus services have had to be pruned to tide over the lean winter months to reduce operating losses. During the year 26 more one-man bus conversions were made, the total in the fleet now being over 100. In the double-deck fleet, 40 veterans were retired in favour of 40 72-seaters at a cost exceeding £230,000. Their high capacity is essential in the summer and useful for short peak periods in winter. A new head office will become available in 1960 in Station Road West, Canterbury, on the site used until enemy action destroyed the original premises in 1942. This will lead to greater office comfort and efficiency than obtains in the "temporary" headquarters at Harbledown.

B.T.C. Staff College

THE staff college of the British Transport Commission, which opened at Hook Heath, Woking, on August 31 last and to which reference has already been made in our columns, is designed to give the widest possible instruction in the transport field to the men who are candidates for high executive posts in the Commission's various activities. All of these have their own traditions of higher training, developing progressively to meet changes in the world of

transport, but for the most part this training has been carried on within the day-to-day activities of each undertaking. Modern conditions impose increasing demands upon successive generations of managers, and such men must have the opportunity of studying management problems in the widest possible context, including the economic, financial and social framework within which the industry operates. The B.T.C. Staff College is designed to meet that need. The College does not attempt to teach management as an academic subject, but seeks rather to give an appreciation of the major problems which face managers in the fields of organisation, industrial relations, finance and technical development, and of the techniques available for tackling these problems. Colleges of this

who began in the general manager's office of the G.C.R. felt nostalgic at the disappearance of a building in which he spent his early railway days, nurtured on the wisdom of the old-timers and nourished by lunches at charges varying from threepence to sixpence according to period of apprenticeship, a generous gesture in contrast with a somewhat modest scale of pay. Gone are the offices and gone also many erstwhile colleagues. Dingy were the portals of London Road but imposing the rooms overlooking the station approach, redolent of pioneers like Watkin and Pollitt and associated at that time with astute and energetic men like Alexander Henderson and Sam Fay. With the departure of the general manager's and secretary's offices to London the building

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kind have been developed since the war by several large undertakings, and the Commission has been fortunate in being able to draw upon the experience of, in particular, the National Coal Board and Unilever. Valuable help was given by Sir Noel Hall and the Administrative Staff College at Henley in planning and organising the opening course. The College has a small directing staff but relies largely upon assistance from distinguished visitors, who are acknowledged experts in their own fields, and from members and senior officers of the Commission. The 28 students on each course are formed into four syndicates of equal size, each working under the guidance of an assistant director of studies. The method of instruction is by case study, visits to transport installations, discussion with visiting experts, and report writing. The members of each syndicate take it in turn to be chairman and secretary of their group. The college building includes a lounge, a library and a dining-room, with an annexe containing additional working rooms and separate bedrooms for the members of the course.

Manchester London Road

THE article in our last issue explaining changes in the character and services of the Great Central main line must have convinced the sceptic of the need for such adjustments in a unified rail system. By the levelling of London Road Station to make way for a block of offices physical change also is taking place in the line's northern terminus—and in Manchester's skyline. Impressive was the station's handsome Victorian facade at the summit of the approach from Piccadilly, and of a dignity appropriate to the headquarters of a railway company. For was not this the home for over half a century of the Manchester, Sheffield and Lincolnshire Railway until, with added responsibilities and access to London, that company joined the "greats" and in 1906 transferred its head offices to the new London terminus facing the Hotel Great Central, emphatic Edwardian caravanserai now known, after vicissitudes, as 222 Marylebone Road, headquarters of the B.T.C. Visiting Manchester recently one

passed into the occupancy of district officers—the London and North Western, joint user of the station, had for years been joint occupier of the offices also—and much-needed improvements in station facilities were carried out between the wars. But the atmosphere derived from fog, smoke and steam remains; it will persist until steam traction is finally replaced and modernisation comes into its own at the new Manchester Piccadilly Station.

Barking Flyover Posters

THE 12th and final edition of the quad-royal progress poster of the Barking flyover scheme has just been issued by the Eastern Region of British Railways. First produced in November, 1956, as part of the Eastern Region policy of keeping the public informed of the latest modernisation developments, the poster was on exhibition at London Transport and British Railways stations in the London area, and gave a diagrammatic layout of the alterations being carried out to improve the track layout and passenger facilities in the Barking area. All that now remains to be carried out is the reconstruction of the station buildings. The alterations to the track layout and the building of the flyovers were completed earlier this year. Although the poster was comparatively complicated, the progress charts proved of great interest to travellers with more than the usual odd second to spare who were able to follow the headway of an extremely complex engineering problem from start to finish. The poster backgrounds were printed in six colours by Waterlow, each issue was brought up to date by silk screen overprinting.

Bolton Celebrates Diamond Jubilee

SIXTY years of municipal passenger transport in Bolton were celebrated at a luncheon in the Town Hall on Monday this week. The opportunity was taken to bid farewell to Mr. Arnold Jackson, who has held the post of general manager and engineer since 1939. Now, at 60, he has expressed the wish to retire. Of him, Mr. F. Williamson, the chairman of the North Western area

Traffic Commissioners, said he had made Bolton a Sandhurst College of the North, such was the flow of management material. The diamond jubilee of Bolton Transport Department finds its new general manager and engineer, Mr. R. F. Bennett, faced with problems of the same character and intensity which afflict most others. Its history was traced extensively in MODERN TRANSPORT in 1950; it may suffice here to say that Bolton was one of the pioneers of the motor bus (albeit operation was temporarily abandoned for an 11-year period), having put a bus on the road in 1904, only four years after municipal tramway services commenced. At one period, in 1947, it seemed that Bolton might substitute trolleybuses instead of buses for its remaining tram routes, but the decision was not followed and in September, 1958, the unusual arrangement by which South Lancashire Transport operated four trolleybuses on behalf of the Corporation came to an end with the discontinuation of the Bolton—Hulton Lane section of route.

Brunel Plaque at Wapping Station

FOR erection at Wapping Station on the East London Line London Transport has prepared a plaque recalling the connection with the Thames Tunnel of Isambard Kingdom Brunel (1806-1859) and his father, Sir Marc Isambard Brunel (1769-1849). It is fitting that the plaque should have been on site and ready for erection at the end of 1959, the year marking the centenary of the death of I. K. Brunel, best known for his work as engineer of the Great Western Railway. Wapping Station is notable in that access to the platforms is through one of the circular shafts of the original Thames Tunnel, built between 1825 and 1843 by Sir Marc Brunel. Isambard Kingdom Brunel was engineer-in-charge of the work from 1825 to 1828. The above-ground part of Wapping Station is now being reconstructed, so that, to avoid possible damage, no more than a token erection of the plaque has so far been possible. When the work is completed towards the end of this year the memorial, illustrated on page 14, will be mounted in a prominent position on a pillar facing passengers as they enter the station.

End of Mumbles Railway

WHILE theatrical obsequies organised by Mrs. Veronica Barrington to mark the abandonment of the Swansea and Mumbles Railway took place on Monday, January 4, the actual last trains in public service departed from the Rutland Street terminus, Swansea, at 9.55 a.m. on Tuesday, January 5. The South Wales Transport replacement bus services are 77, Cwmrhydyceirw to Swansea, now extended via St. Helens Road, Oystermouth and the new private road to Mumbles Pier, and 94 in peak hours, Oystermouth Square to Rutland Street. At 11.40 a.m. on January 5 a party of guests of the South Wales company made a last rail journey to Southend, where the track was cut after October 11 to make the new bus road to the Pier, and back, after which they were entertained to luncheon at the Guildhall. Councillor A. J. K. Hare, deputy mayor of Swansea (the mayor has sustained a motor accident), proposed the toast of the company, in which they had great confidence; Mr. W. T. James, chairman, responded. It was, he said, a day of mixed feelings, but replacement of the railway equipment would have cost nearly £350,000 and must have been reflected in the level of fares charged, so diesel buses at a lower capital cost had been chosen. Moreover, S. and M. traffic was falling, by a million in a decade, and because of housing developments it was impossible to avoid paralleling the railway with other bus services. He expressed gratitude to the corporation and its officials for their assistance and handed Councillor Hare the deeds of the land occupied by the track as a gift to the town. He then proposed "The Guests," to which Mr. J. R. Hammond, general manager, Western Region, succinctly responded on behalf of those who had been enabled to participate in an historic occasion.

SILVER ROADWAYS LTD.

Reliable Trunk Services to all Parts

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Exchange Buildings
SWANSEA 541715**GLASGOW**
12 Dixon Street, C.2
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11 Old Hall Street, Liverpool, 3
CENTRAL 6386**NOTTINGHAM**
Pavilion Building, Pavilion Road,
West Bridgford
NOTTINGHAM 83481**OFFICIAL NOTICE****RHODESIA UNITED TRANSPORT, LIMITED****VACANCY FOR
TRAFFIC MANAGER
(PASSENGER)**

THE above company, which controls a number of Passenger and Freight operating companies in the Rhodesias, invite applications from Traffic Managers who have had previous experience.

The successful applicant will be required to develop long-distance express coach services and tours throughout the Federation and will be based on Salisbury, Southern Rhodesia.

The position offers considerable scope for initiative and the commencing salary will be in the region of £1,750 per annum but will depend on the qualifications and experience of the selected applicant.

Previous experience in this type of work is essential.

Applications, which will be treated in strict confidence, should be sent to:

The Secretary,
United Transport Co., Limited,
Mouton Chambers,
Chepstow, Mon.

by January 31, 1960, and should include the following particulars:

1. Name and address.
2. Age.
3. Whether single or married and, in the latter case, the number and ages of any children.
4. Education.
5. Training.
6. Professional or technical qualifications.
7. Brief statement on present and previous appointments, arranged chronologically.
8. Present salary.



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payable in advance and postage free

The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

We desire to call the attention of our readers to the fact that Russell Court, 3-16 Woburn Place, London, W.C.1, is our sole London address, and that no connection exists between this newspaper and any other publications bearing somewhat similar titles.

Travel Prospects

PROSPECTS for the travel business seem to be continuously widening. As a result of a rising standard of living and the enjoyment of holidays with pay by a greater proportion of workers, the numbers of people going away for holidays have considerably increased over prewar days, while a much greater cross-section of the community than ever before thinks in terms of holidays abroad. Better transport facilities and wider familiarity with foreign travel have persuaded holidaymakers to go much farther afield. Down to 1939 Belgium—and the Belgian coast at that—was the most popular haven of the Englishman abroad, whereas today the first place is vied for by France, Italy, Spain and Switzerland. Soon much wider travel will become commonplace and the agencies are doing sterling work to hasten the day by making transport facilities better known. It is thought by Mr. Cecil Garstang, chief assistant general manager of Thos. Cook and Son, Limited, that 1960 may well be the most outstanding year for holiday travel since 1939. Two special events of international appeal coincide: the ten-year cycle of the passion play at Oberammergau and the four-year cycle of the Olympic Games, this year to be held in Rome. Although the 2½ million foreign-going holidaymakers spent £48 each with travel agents and probably an average of £70 each in total, the effect of the virtual removal of currency restrictions for British residents must be to enlarge the holiday-maker's horizon. In addition there is a move towards lower air fares which has already found practical expression in respect of European destinations and may be implemented elsewhere.

Going Farther Afield

THE combined effect will be to stimulate interest in foreign travel among those who have not been abroad before; while some will be able to go much farther off than ever, those for whom the £100 allowance was more than enough will find the reductions in air fares enticing. Foreign holidays are now so reasonably priced that it is thought that even people of moderate means will continue to have European holidays and yet save for the occasional trip to faraway places. There is a trend towards two holidays a year—winter sports and summer on the beaches—and all who found the old allowance somewhat tight

will now be able to venture forth with a lighter heart. For the agencies the new freedom of travel could not have come at a more welcome time. They have a problem in finding new places for those who feel they have exhausted the possibilities of Western Europe and the northern fringe of Africa and have the resources to afford longer journeys involving the payment of much bigger fares. A 24-day American tour by ship can be done for as little as £155; the economy class air fares across the North Atlantic have already boosted the numbers of passengers from 1,292,166 in 1958 to 1,650,000 during 1959; in 1960 the two million mark will almost undoubtedly be reached.

Round-the-World Tours

SOME of the longer tours are already proving popular. There are escorted tours to the United States and Canada, Ceylon, India, and New Zealand (a trip leaving early in 1960 is fully booked), while tours of Africa for sightseeing or safari are listed, with South America in 18 or 61 days (according to use of air or sea) and a round-the-world in 60 days at £797 for each of two persons. A 16-day coach tour to U.S.S.R. and Poland is priced at 78 guineas. Nearer at hand Cooks have this year listed many new resorts and holiday camps and offer an Italian holiday at Gabcice Mare at the remarkably low price of £22 14s. Of course, tailor-made facilities are available for those who have their own plans or special requirements. But even specialists are catered for very thoroughly—the Ramblers Association, for example, although presumably primarily concerned with walkers, makes arrangements for sailing holidays, painting in Spain and a trip to Switzerland specially designed for railway enthusiasts. Of course, British facilities will not be neglected and a boom is anticipated in both Scotland and Ireland, where recreations such as skiing, pony-trekking and coarse fishing are being boosted. Cook and Dean and Dawson between them will send almost as many people to British resorts as they will to the Continent.

Alive to Potentialities

ALTHOUGH the bulk of the customers of travel agents have hitherto been potential travellers by public road, rail, sea and air services (and special trains and aircraft are booked for them in large numbers) the travel trade is alive to the potentialities of the private car and two offers are made which will have a bearing on the future shape of holidays in a car-owning community. One is the self-drive hire car (a new Cook service in 1960) and the other is Cook's "Autotravel Service," now featured in *Holidaymaking* for the first time, which enables the car owner who wants a preplanned holiday to get all his arrangements laid on beforehand by experts. Holidays, said Mr. Garstang last week, are now a burning interest with the average individual, second only to sport with men and clothes with women. Some proof of this is the issue on January 1 of the first number of a fortnightly travel paper for the general public, *Holidays Gazette*. The lot of travel agents and of transport undertakings catering for public requirements would be easier, we believe, if some element of staggering of holidays could be achieved. The rigidity of the school leave period, the old-fashioned wakes weeks of the North, and the practice of closing an entire factory for a week or fortnight occupied by maintenance work can easily be understood, but now that going away for holidays is the standard of millions it imposes an undesirable peak demand on hotel and boarding house accommodation as well as on transport. The August Bank Holiday fetish—again quite understandable when Sir John Lubbock secured this wonderful concession for Victorian workers—might also reasonably be dispelled. Another factor that would help the holidaymaker who does his own timetable consultation would be the adoption in this country of the 24-hour clock. Journeys by rail and road from Scotland and Ireland to England are sufficiently long for a.m. and p.m. indications to be a source of considerable confusion to the unwary; Continental and air times are already given, sensibly enough, on the 24-hour system.

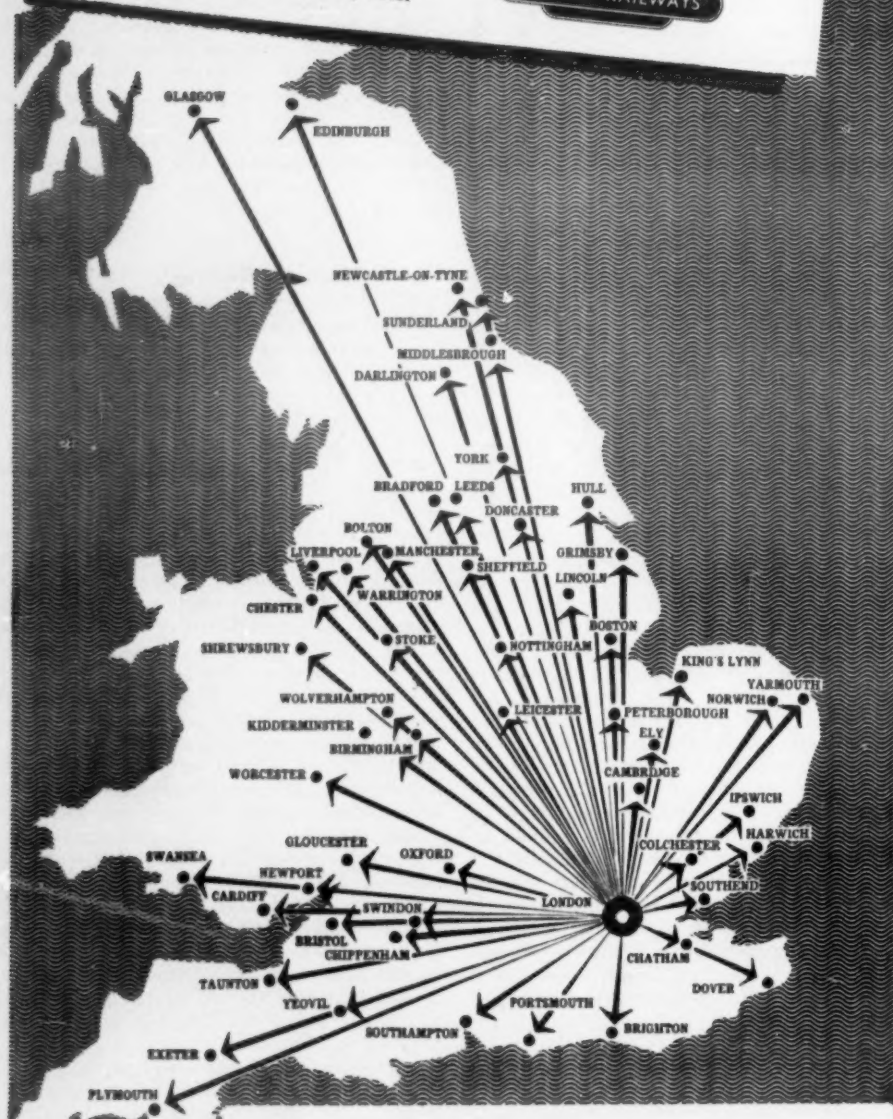
**NEXT-DAY
DELIVERY BY
EXPRESS
FREIGHT**

This map shows some of the many towns to which British Railways Express Freight Services can give next-day delivery for wagon-load traffic. It is a time-table service—and door-to-door transport can be provided. Express Freight charges are competitive with any other



form of transport. For further information get in touch with your local Stationmaster or Goods Agent. He'll supply you with all the details you need.

BRITISH RAILWAYS

**BRITISH RAILWAYS
EXPRESS FREIGHT****NEWS SUMMARY**

FIGURING in the New Year Honours are Sir George Nelson, chairman, English Electric Co., Limited (baron), Mr. L. J. Dunnett, Permanent Secretary, Ministry of Transport (K.C.B.), Mr. J. R. Farquharson, general manager, East African Railways and Harbours (K.B.E.), and Dr. W. H. Glanville, director, Road Research Laboratory, and Mr. A. B. Waring, chairman and managing director, Joseph Lucas (Industries), Limited (knights). A full list appears on page 9.

The Southern Region is to withdraw passenger train services between Newbury and Winchester after March 5.

The Commer 3-ton range of goods and passenger vehicles offers a choice of petrol or diesel engine. Unitary welded-steel construction gives maximum strength and rigidity for minimum weight. (See pages 3 and 12.)

A.E.C. and Etablissements G. Spitals, of Antwerp, have formed A.E.C. Continental, S.A., progressively to manufacture and market A.E.C. vehicles in Belgium for the Continent.

Esso Petroleum Co., Limited, is to spend £2½ million on a new petroleum products pipeline, with an initial daily capacity of 1½ million gallons, from Fawley to a new depot near London Airport.

British European Airways is seeking approval for three Continental helicopter routes from London to Paris, Brussels and Amsterdam and two internal services Land's End—Isles of Scilly and London—Birmingham—Manchester.

One of the most intense bus services in the London area, 212, from Finsbury Park to Muswell Hill Broadway, was reduced on January 6 from 46 to 38 buses an hour over its heaviest section (Finsbury Park to Crouch End) upon substitution of 56-seat double-deck for 41-seat single-deck buses.



CHOICE of petrol or diesel power and a wide range of factory-fitted body types are features of the new series of full forward-control $\frac{3}{4}$ -ton goods and passenger vehicles announced this week by Commer Cars, Limited. Of unitary welded-steel construction to obtain maximum strength and rigidity for minimum weight, the new range is designed for high performance and good manoeuvrability, with payloads of up to 15 cwt. in the goods versions or 14 persons in the passenger versions. Despite the excellent manoeuvrability afforded by a wheeltrack turning circle of about 36 ft., the standard body provides 200 cu. ft. of loading space behind the driving seat. An additional

centre seat, when fitted) can be lifted clear after drawing two quickly removable hinge pins.

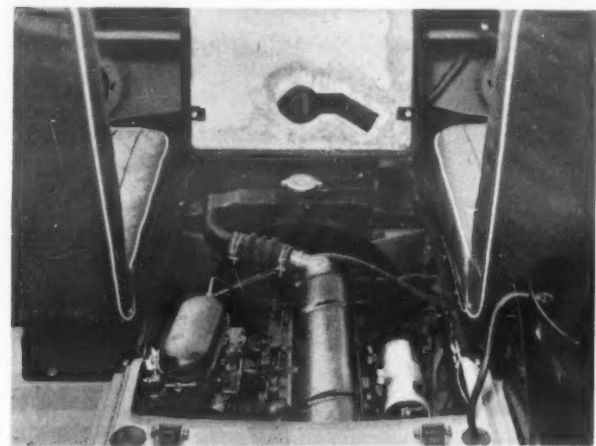
Transmission and Suspension

Transmission is through units already well proved in various Rootes Group vehicles. An 8-in. diameter single dryplate clutch is hydraulically linked to the pedal and a direct-coupled four-speed gearbox having synchromesh engagement of second, third and top gears is remotely controlled by a lever placed well forward in the driving compartment to preserve the clear floor area. For the same reason, the handbrake lever is mounted out of the way but in natural reach on the right-hand side of the driver's seat. Transmission is continued through an open tubular propeller shaft with needle roller bearing universal joints and a hypoid bevel gear rear axle having semi-floating shafts. Standard gear ratio of the axle is 5.125 to 1 and an optional ratio of 5.625 to 1 is offered.

Independent suspension at the front comprises a massive pressed-steel crossmember supporting two unequal-length wishbones on each side, coil springs, Armstrong telescopic dampers and an anti-roll bar. Conventional rear suspension employs two 47-in. long by 2-in. wide underslung semi-elliptic springs and Armstrong dampers. The nine leaves are arranged to provide triple-rate suspension to give good stability at all states of loading. Steering is by cam-and-peg gear with a ratio of 17 to 1 in conjunction with a 16½-in. diameter two-spoke wheel. Goods vehicles in the range have 6.00/6.40—15 6-ply tyres and passenger versions have 6.50/6.70—15 6-ply tyres. Tubeless tyres are standard and a spare wheel and tyre is an optional extra. Lockheed hydraulic brakes provide a total lining area of 146 sq. in., derived from 10 in. by 2½ in. units at the front and 9 in. by 1½ in. at the rear to provide optimum apportionment of the braking effort.

General Structure

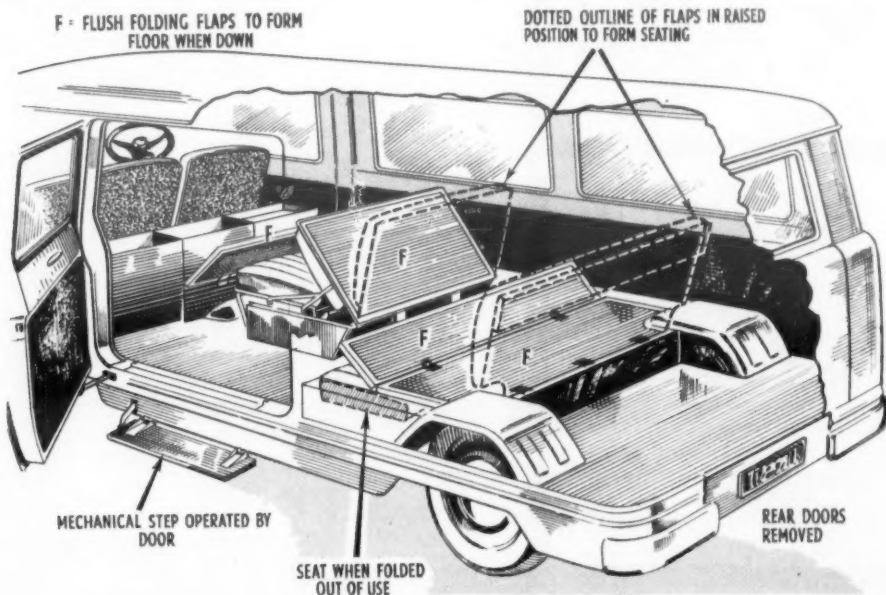
The welded understructure provides a flat platform sub-assembly designed to take a wide variety of body types. It is formed of inverted top-hat-section side rails and box-section crossmembers and longitudinals. Crossmembers extend outwards from the longitudinals to take the lower side sills. The front-end assembly comprises a one-piece front lower panel, to which is welded an upper panel to take the deep curved one-piece windscreen. The toeboard is welded to the front end and extends rearwards to the front-wheel arches. Two inspection covers are provided in the toeboard for brake and clutch hydraulic system



Even with three seats fitted at the front, good engine accessibility is afforded by hinging forward the engine cover complete with centre seat. Quickly removable hinge pins permit complete removal of the cover

10 cu. ft. is available beside the driver when front passenger seats are omitted.

The Commer $\frac{3}{4}$ -ton series is the first British vehicle in this class to offer a choice of petrol or diesel engine. Both are well-established units; the petrol engine is the Rootes four-cylinder 1,494-litre overhead-valve unit developing 52 b.h.p. at 4,500 r.p.m., while the diesel is the Perkins four-cylinder Four 99 1,621-litre engine developing 42.3 b.h.p. at the governed maximum speed of 3,600 r.p.m. The petrol engine is tuned to provide excellent low-speed torque characteristics—76 lb./ft. at 2,200 r.p.m., oversquare bore-stroke dimensions give low piston speed and a compression ratio of 7 to 1 ensures smooth operation on even commercial-grade petrol. For operators seeking extremely low fuel consumption, the Four 99 diesel engine is available as a factory-



Drawing showing details of the eight-seat dual-purpose version, which provides excellent loading space with rear seats folded. A hinged-door van with additional side-loading door is seen in the title picture

fitted option at £112 premium on the basic price of the vehicle; it adds 1½ cwt. to the tare weight.

Clear Cab Floor

The design has a front overhang from the centre line of the front wheels of 3 ft. 8 in. With the engine front mounting on the massive cross-member that supports the front suspension units, this leaves a clear flat floor space ahead of the engine compartment for easy either-side access to the driving seat and ample legroom for the driver and two front-seat passengers. The two front passenger seats are optional fittings in van versions of the range; when fitted, the centre seat is mounted on top of the engine cover and hinges forward with it when the hood is unclipped from the rear. Raising the hood provides ample access from the front for daily engine checks; when greater access is required, the whole hood (and

servicing. The whole structure is protected on the underside by a stoved bitumen compound.

The vehicle has a wheelbase of 7 ft. 6 in. and has overall dimensions of 14 ft. long, 6 ft. 1 in. wide and 6 ft. 7½ in. high unladen. The unladen floor height is 1 ft. 11½ in. and ground clearance on 6.00/6.40—15 tyres is 7½ in. It is designed for a maximum gross weight of 2 tons 1 cwt. as a goods vehicle and 2 tons 4½ cwt. as a passenger vehicle. One of the features of the design is the wide range of body types available directly from the manufacturer, some of which have been developed in conjunction with appropriate specialist bodybuilding concerns. These types include the standard vans, pick-ups and dropside lorry, mobile shops, gown van, bottle float, ambulance, 12-seat bus, 14-seat works bus, an 8-seat dual-purpose vehicle and a fully fitted caravan. In

(Continued on page 11)

Another FIRST for SKF

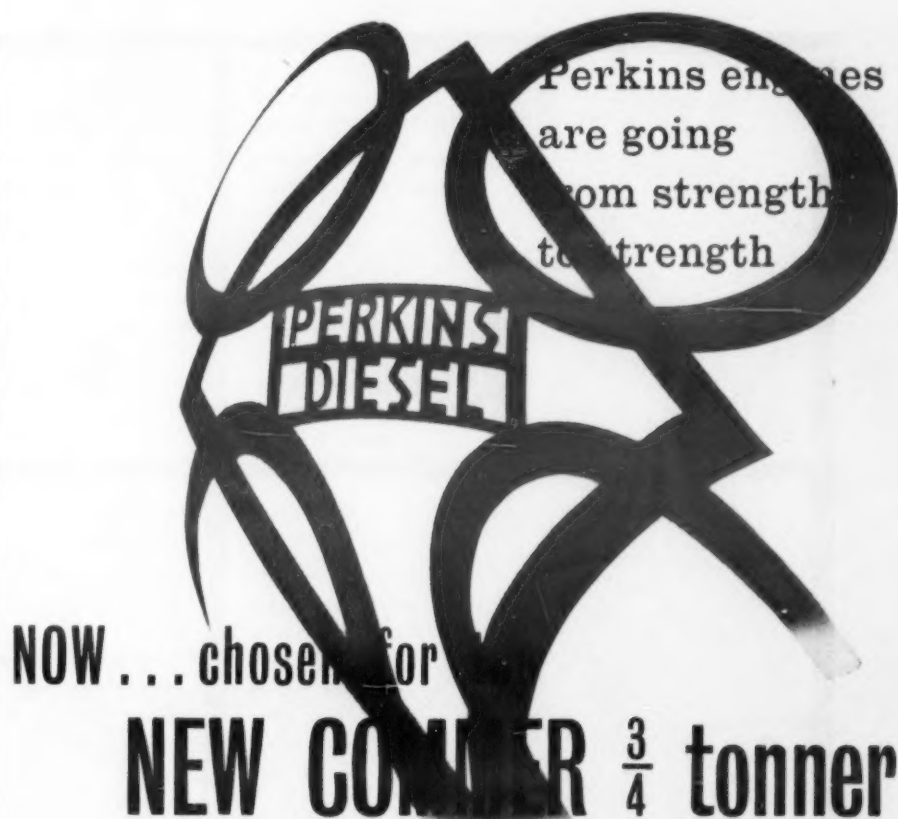
The first ten 1,160 h.p. Type 2 Bo-Bo diesel electric locomotives built at the Derby Works of British Railways are equipped with SKF self-aligning spherical roller bearing axleboxes. Further large orders have been received covering axleboxes for similar locomotives to be built at Derby, Darlington and Crewe. Under British Railways' Modernisation Plan, SKF axleboxes are being used in increasing numbers on locomotives and rolling stock of all types. Their advanced design, the result of experience gained from the supply of well over one million axleboxes to the railways of the world, ensures that every SKF axlebox will give maximum performance with an absolute minimum of maintenance.



SPHERICAL ROLLER BEARING AXLEBOXES

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OVER ONE MILLION SKF ROLLER BEARING AXLEBOXES HAVE NOW BEEN SUPPLIED TO THE RAILWAYS OF THE WORLD

RBSa



We congratulate Commer Cars Ltd., with whom we have been associated for over 27 years, on the first public announcement of their new range of $\frac{3}{4}$ ton Goods and Passenger Vehicles. We are glad to have had the pleasure of collaborating with them on their test and choice of a suitable engine to be offered as a standard diesel

power unit with their new vehicles. We are proud that they have chosen the FOUR 99 four cylinder diesel engine—rated to develop up to 42.3 b.h.p. at 3,600 r.p.m. This engine has already become world renowned in all its other applications—private cars, agricultural, industrial and marine.



... FOR GOODS AND PASSENGER VEHICLES, MOTOR CARS, INDUSTRIAL, AGRICULTURAL AND MARINE APPLICATIONS

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LORRY—BUS—COACH

Another No-Traffic Base Application

OPERATION of vehicles from a base other than that declared in the licence application, but from which, it was claimed, little or no traffic originated, figures in a decision given last week by the West Midlands area Licensing Authority. Oswald Transport, Limited, of Trabboch, Mauchline, Ayrshire, sought a new A-licence for six vehicles from a base at Talke, Staffs. Four had been previously licensed at a base in Wolverhampton and two in Wigan. The licensing authority, in addition to hearing the application, inquired in terms of section 9(4) into the reason why the Wolverhampton vehicles had admittedly been used at Talke since October, 1957.

For the applicant, Mr. C. C. Dunkerley said they had not, except to a negligible degree, created wasteful competition in the Potteries because Oswald Transport did not seek traffic in that area; Talke was selected for operational convenience only. Evidence showed that traffic emanated principally from Shotton, Wrexham and South Wales and that Talke was a convenient changeover point for drivers to arrive from South Wales and Scotland. For the B.T.C., Mr. G. H. P. Beames said the question of base was all-important. The licensing authority (Mr. W. P. James) says he relies on the Bradbury appeal decision (MODERN TRANSPORT, December 5, 1959) on this point. The Wolverhampton vehicles were fully occupied, the traffic had been carried for a considerable time and there had not been wasteful competition in the Potteries. Following Bradbury, therefore, a prima facie case for the Talke grant had been made out. But Oswald Transport had no reasonable excuse for operating without authority from Talke since 1957, especially since it had been warned of the correct procedure by him. Also it had made false declarations on G.V.6 forms since then. Two vehicles have been removed from the road for the month of February. In the case of the two Wigan-based vehicles, Mr. James states that he will await the outcome of action in the North Western area

under section 9(4) in respect of these vehicles. The normal user of the four Talke vehicles has been amended with the agreement of the applicant, the



A Crediton haulier uses this Leyland Hippo seen in Central London with a capacity load

company undertaking not to seek Potteries traffic of its own volition.

Stoppage over New B.R.S. Schedules

LOSS of traffic to independent hauliers at a time when competition is at its keenest was the biggest worry for British Road Services management on Monday this week when there was a widespread unofficial stoppage of work in protest against the new scheduling agreement. Heaviest hit were the Tyne and Tees, Leeds and Birmingham areas, where work ceased almost entirely; Glasgow, Norwich, Chelmsford and Southampton were other affected places. In London general haulage men

stopped and four parcels and Pickfords depots were involved. In all 3,200 men, nearly all drivers, were concerned out of a total of 22,500 in those grades. The precise objections varied from place to place and the overall picture was a confused one; in Birmingham, platform staff were on strike, seeking parity with vehicle drivers, elsewhere drivers complained that they were out of pocket because they had lost travelling time pay.

On Tuesday evening, Mr. T. G. Gibb, general

on. If this part of the agreement did not work out it would have to be reviewed.

As an example of the way in which travelling time had been cut out, he instanced the Glasgow-Liverpool service. Hitherto drivers on 20-m.p.h. vehicles had had to stop at Preston and were paid travelling time home to Liverpool. Now they could get through and the extra hours were unnecessary, being replaced by the overall bonus. By and large drivers "broke even" under the new agreement; hitherto average hours worked weekly were 63 for general haulage men and 59 for parcels. In future the averages would be about 57 and 55 respectively. The average wage in London was £15 5s. and in the provinces £14 15s. In the rescheduling of services there was no single average speed selected. Conditions varied greatly from route to route and even from time to time; for example, there were now 75 miles of dual carriageway on the A1. Scheduled average speeds now varied from 21 m.p.h. to 24 m.p.h. according to the known physical conditions of each route.

Aftermath of Sheffield Strike

THERE was a reduction of nearly 1 million passengers on Sheffield buses and trams in the four weeks ended December 5, 1959, the period immediately following the Sheffield transport strike, compared with 1958. Figures in the Transport Committee minutes presented to the City Council on January 6 show that receipts in the same period went down by over £11,000.

Two Haulage Cases for High Court

CASES are to be started for the opinion of the High Court on two decisions recently reached by the Special Commissioners of Inland Revenue, states the R.H.A. (see MODERN TRANSPORT, December 5, 1959). The first decision concerned balancing charges and the second the initial allowances to which the purchasers of denationalised vehicles are entitled. On both points the contentions to be forwarded by the Road Haulage Association were accepted by the Special Commissioners.

More Buses Needed for 40-Hour Week

WHEN the 40-hour working week was introduced, as seemed probable, a further concentration of the peak must be expected, said Mr. A. F. Neal, general manager of Manchester Corporation Transport Department, in Bolton this week. It was reasonable to expect that 20 min. would be lopped off the working day. In Manchester they expected 10 per cent more buses would be required. Mr. Neal was speaking in his capacity as president of the M.P.T.A. at the Bolton diamond jubilee celebrations (see page 1). Passenger transport, he went on, was the one form of road traffic which could be controlled and it seemed that bus undertakings were being controlled in default of action elsewhere. He asked the authorities concerned to give them every possible assistance at this critical period in their fortunes.

No Smoking Condition Removed

APPEALS by the Northern General Transport Co., Limited, and the Sunderland District Omnibus Co., Limited, against the imposition of a no-smoking condition in the lower deck of double-deck buses have been allowed by the Minister of Transport. He has in the first place considered whether he should accept his inspector's recommendation that the appeal should be allowed for the reasons that "it is unreasonable for traffic commissioners to seek, either directly or indirectly, to regulate the conduct of passengers on public service vehicles." Many types of conduct which are generally objectionable are appropriately dealt with by central regulations, but he sees no reason why commissioners should not, in appropriate circumstances, impose conditions relating to the comparatively few types of conduct whose objectionableness may vary from case to case. Smoking, considered from the point of view of public convenience, appears to fall clearly within this latter class.

The Minister has approached the matter from the point of view that where the circumstances so justify, commissioners may properly attach a "no-smoking" condition of this kind. Reviewing the evidence with this in mind, the Minister has concluded that the evidence based on health considerations was inconclusive and that the matter therefore falls to be decided on the basis of the convenience of the public travelling on the services in question. From this point of view, the important questions for decision are whether a substantial body of passengers—not, of course, necessarily a majority—on the services in question are in practice inconvenienced by smoking downstairs, and if so whether their gain from its prohibition would outweigh any inconvenience which that prohibition would entail for would-be smokers. Considerations relevant to the settlement of these questions would include the length of the journeys involved, the extent to which a conflict of interest arises in practice and the extent to which people smoked downstairs when there were vacant seats upstairs, and so on. He has concluded that the objectors, on whom fell the onus of making out the case for prohibition, did not in this case succeed in doing so. In addition, such indications as there were about these matters were related rather to bus services as a whole than to the specific services or groups of services concerned in the cases; it appeared that the services involved were of substantially varying types.

Bus and Coach Developments

Snowdonia Coaches, Queenington, seeks to operate journeys on its Bibury-Cirencester service via Ampney Knowle, Hilcot End and Ampney Crucis on Monday, Wednesday and Saturday. W. Alexander and Sons, Limited, proposes a new weekday service between Glasgow (Renfrew Street) and Drunchapel (Tallant Road). It would operate in peak hours and on Saturday afternoons.

Western National Omnibus Co., Limited, proposes a Thursday service between Minehead and Wootton Courtenay via Dunster. It has been operating the route on short-term licences since the Burnell service was withdrawn.

Western National Omnibus Co., Limited, applies to withdraw the Golberdon-Upton Cross section of its Saltash-Callington-Upton Cross service.

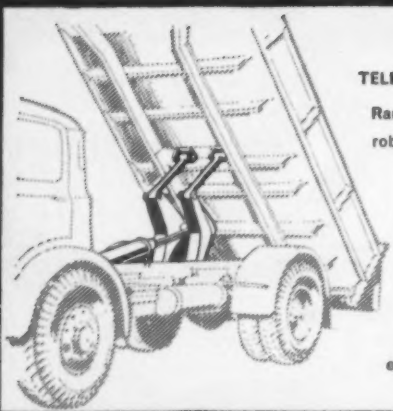
David MacBrayne, Limited, seeks the Glenshiel-Kyle of Lochalsh-Inverness and Glenelg-Shiel Bridge services of Simon F. Campbell, Glenshiel. Extended tours operated by Auty's Tours, Limited, which had, since 1958, been controlled by Ribble Motor Services, Limited, have been absorbed by the parent concern and are to be operated as Kingfisher Tours. Upon the discontinuance of the Mumbles Railway (see page 1) the South Wales Transport Co., Limited, extended its service 77 to run Cwmrhydyceirw-Swansea-Oxford Street-St. Helens Road-Mumbles Road-Oystermouth Square-Southend and by the new pier road on the railway site to Mumbles Pier terminus. The first journey from St. Helens is at 4.47 a.m. (arrive Mumbles Pier 5.3 a.m.) and from 6.55 a.m. at Pontlasce Cross to 6.31 p.m. a 12-min. service is provided; then until 10.31 p.m. the headway right through is 20 min. Certain journeys run through from Pontlasce Cross to Mumbles Pier and there are extras when necessary. There is also Service 94 from Rutland Street to Oystermouth Square at 12-min. intervals in the morning, midday and evening peaks. Return and season tickets available to Rutland Street are available on 72 and 78 between St. Helens and Kingsway Post Office.

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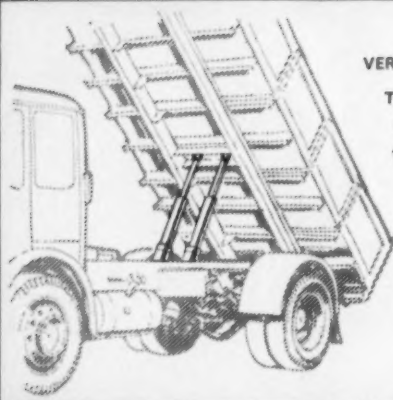
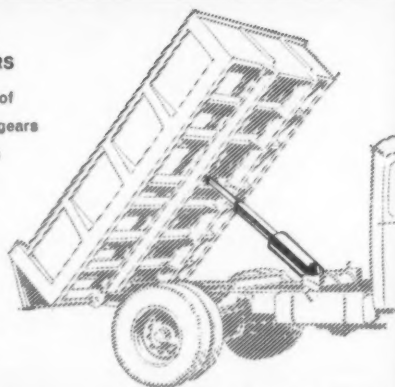
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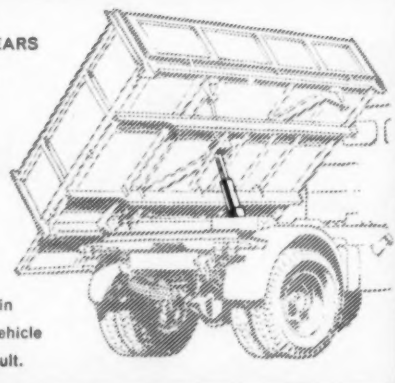
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GOVERNMENT AND ROADS AND ROAD TRANSPORT

3—Classified, Trunk and Special Roads

By L. J. DUNNETT, C.B., C.M.G., Permanent Secretary,
Ministry of Transport*

THE reason for classifying roads at all is that the proportion of the cost paid by the Government for keeping up and improving main roads ought to be higher than the proportion for roads that are less important. This in turn rests on the principle that the main communications in the country are a national rather than a local matter. Class I roads are roads connecting large centres of population and other roads of outstanding importance for through traffic. Class II are those forming important links between Class I roads and the smaller centres of population. Class III are those which, though not so important as Class II roads, are of more than local traffic value. The rates of grant have been reviewed from time to time. Those current are for Class I 75 per cent of the total net cost, for Class II 60 per cent and for Class III 50 per cent.

For administrative reasons grants are made under two heads, one for new construction and major improvements and the other for maintenance and minor improvements. The latter are issued in a fairly uniform way since roads everywhere require repairing at roughly speaking the same regular intervals. New construction and major improvements are a different matter altogether. The need for these depends on the volume and nature of the traffic in particular places and at particular times, factors that change according to economic and social developments. During the last war no major improvements were carried out to speak of, but it was not until 1955 that the Government of the day felt they could begin to increase significantly the funds to be spent on roads. On the other hand many highway authorities had been willing for some time to meet their share of the costs of the improvements waiting to be done, but when on the average some two-thirds of the cost would be met by grants they were also naturally unwilling to make a start themselves.

Determining Urgency

What central funds were available had therefore to be spent in the most effective way, and the most urgent schemes were tackled first, urgency being determined by the degree of benefit conferred by the improvement on the industrial life of the country or by the seriousness of the accident record. A system of priorities has still to be applied and it requires us to disregard any relation between funds and the mere geographical location of highway authorities or the mileage of roads in their areas. It inevitably means that by and large the money is going to where traffic is most dense and industry most important, that is to say London, the industrial parts of the Midlands, the north-east, the north-west, South Wales and the routes in between.

The Ministry's staff of divisional road engineers, who are stationed in nine centres and are familiar with local conditions, collate the schemes that the highway authorities in their areas want to carry out and submit them in priority lists to headquarters. From these a central list is compiled and as many schemes as funds permit are included in the programme annually. It may be asked how is it decided whether a widening scheme in Newcastle is more urgent than a new bridge in, say, Bristol, or whether a large scheme costing £500,000 is more worth doing than 10 schemes costing £50,000 each? There is no absolute answer, nor can there be until a really accurate method of measuring the economic justification of improvements is evolved.

Trunk and Special Roads

The means of getting trunk roads and motorways into being are fundamentally the same. The procedures involved in a big project, whether a new road or a by-pass or an important diversion, follow because of the legislation enacted by Parliament. The first step is to locate a provisional route. This involves not only preliminary surveys and field work, and sometimes aerial surveys and trial borings, but also consultation with local authorities and other interests likely to be affected, for example, water and electricity boards. If agricultural land is affected discussions are necessary with agricultural interests through the Ministry of Agriculture, Fisheries and Food. These are often long and detailed and, depending on the size and nature of the project, they may take anything between a few months and several years to complete. Sometimes a preliminary line has already been included in a development plan, but even when this is so it must be reviewed in the light of any objections made to the draft development plan and in the light of the latest standards of design.

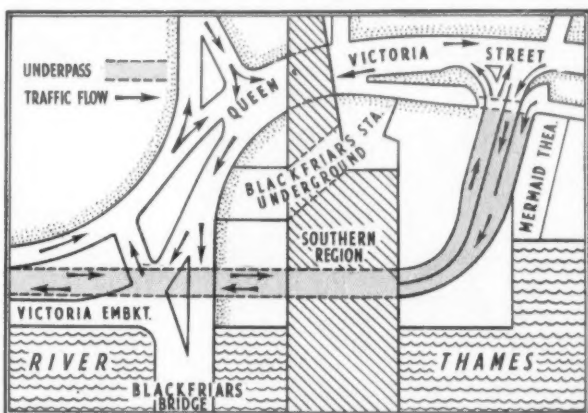
The next step is to make an Order or Scheme under the Trunk Roads or Special Roads Act. This finally defines the centre line of the road and protects it from all other development. First, a draft is published with plans of the route. A period of three months follows during which objections are made. These must be carefully considered and a public inquiry may have to be held before the Minister decides whether the scheme should be made with or without modifications. The process of making a scheme takes about a year if no substantial difficulties are encountered but it may sometimes be necessary to revise the proposals and go through the whole process again from the beginning. The next stage is to prepare the detailed designs, including those for junctions, bridges, draining, etc. Land plans, reference schedules, specifications and bills of quantities must be drawn up. At the same time proposals are formulated for dealing with roads and footpaths crossing the line which may have to be stopped up or diverted. The proposals have to be advertised and an Order made by a statutory process similar to that used

in making a scheme to fix the line, permitting once more objections and possibly a public inquiry.

As soon as sufficiently detailed plans are ready the acquisition of land can begin, and a draft compulsory purchase order is made so as to save time later should it become necessary to use it. A compulsory purchase order must be advertised in draft form for two consecutive weeks and three weeks are allowed for objections to be made. If necessary a public inquiry to hear objections is held. All this may take a long time. Additional complications are introduced when rehousing, common land, burial grounds, etc., are involved. To get entry on to land for a scheme of any size usually takes at least 12 months from the start of the acquisition process. Often a scheme involves bridges, and while the engineering details are being worked out the bridge designs are referred to the Royal Fine Art Commission and bodies whose interests are affected.

When all this has been done, the contract documents are completed and entry to the land secured. Tenders are then invited by advertisement. For a major work the time required for tenders to be prepared and considered is at least four months. To complete all these processes it may mean that four years are needed before work can begin.

What are the problems which an expanded road programme presents? First, there is so much to be done and it is a question of choosing between



A proposed City of London improvement: Layout of underpass projected at the north end of Blackfriars Bridge to facilitate Victoria Embankment-Queen Victoria Street and Embankment-Blackfriars traffic flow

the various possible schemes. This is a problem on two levels. At one level, there is the decision, within a given financial availability, on how much to devote to motorways, how much to trunk roads and how much to classified roads and urban works. At another level there is the choice among specific projects in different areas. So far we have concentrated on routes carrying the preponderance of industrial traffic. We have "overload" data showing on which routes the burden falls most heavily.

Then there is the question of organisation. The idea of a National Roads Authority has been much canvassed. I would only say that the Government in this country has hitherto decided to retain direct responsibility for the construction of motorways and trunk roads and to leave with local highway authorities responsibility for classified roads. I can hardly conceive that the Government would yield this responsibility to another body without requiring that body to maintain itself from revenues derived from user charges. This is, of course, a familiar enough concept in other countries, but you will observe that it costs nothing to drive along M1. Then there is the actual agency through which plans are made, contracts let and the work progressed. It is our practice to call on the services either of county councils as agent authorities or of consulting engineers.

Land Use

Land use is another major factor. We cannot here be as lavish with land as is possible for instance in the Arizona desert. We therefore try to define our requirements as closely as possible and we sometimes have to accept that requirements which we put forward as reasonable have to be reviewed because the land we want is of outstanding value for another purpose. Before we built our first motorway, there was some anxiety lest this great strip of asphalt and concrete would be a scar on the countryside. I think that the anxiety has been dispelled by actual experience and I trust that with the assistance of the Committee on Landscaping we shall be able to secure that our future motorways and by-passes blend into the countryside and give their users good views and perspectives as they go on their way. I think it would be agreed that a good start, at least, has been made with M1.

For the immediate future it is well to bear in mind that, although the Government contributes largely to the cost of roads in towns and cities, the preparation of schemes, the processes involved and their execution are the responsibility of the local highway authority. In many cases the highway authority is also the local planning authority, so that the road scheme itself and its general setting in the town or city plan is essentially a local matter. The governmental role is to approve the highway scheme as such; and in its planning function, to approve the development plan as a whole. It might be held that the Government, which provides the greater part of the money, should play an even more positive role. But our great cities prize, and rightly prize, their own judgment and discretion and it would be contrary to the spirit of the times to seek to exercise more control from the centre. In practice, this theoretical division of powers is largely overcome since the Ministry's divisional organisation works closely with the local authorities on these and other matters of joint interest. Finally, the individual's rights of protest and protection, as prescribed by Parliament, are indeed formidable and have to be taken into account in the timetable.

(To be continued)



I-say-make-way-there-old-boy-what

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* Abstract of Henry Spurrier Memorial Lecture read before the Institute of Transport. The second portion appeared January 2. H.M. the Queen has signified her intention of promoting the author K.C.B.

SIXTH NATIONAL BOAT SHOW

Expansion and Improved Presentation at Earls Court

EXTREMELY rapid growth of public interest in boats and boating as a leisure occupation has been a feature of the past decade and this expansion has been reflected in the support accorded to the annual exhibition dedicated to this interest. The National Boat Show just ending, the sixth in the series sponsored by the *Daily Express* and organised by the Ship and Boat Builders' National Federation, was mounted this year at Earls Court for the first time, where it occupied more than twice the space of the original exhibition and attracted roundly 360 exhibitors and about 350 boats of various types.

The upsurge of popular interest has been beneficial not only to the boatbuilding industry and the many concerns specialising in marine equipment, but also to the vast numbers of people who rely on the operation of small craft for their livelihood. Such technical advances as have been made with small diesel engines and suitable transmissions, with the practical development of resin-glass hulls and new efficient fabrication techniques for more conventional materials and of synthetic fibre ropes and more efficient marine finishes and protective coatings could not have been achieved so quickly or at such low cost to the user without the high production assured by pleasure boating.

Plastics Hulls

Plastics hulls have long since reached the age of respectability and standard production craft from small dinghies up to ships' lifeboats were shown by many manufacturers. Among the larger resin-glass boats were three Halmatic Deborine vessels ranging in length from 18 ft. to 38 ft.—the largest being one of an order for 20—a fully fitted 28 ft. 6 in. cabin cruiser by Thornycroft and a 36 ft. 9 in. motor lifeboat by W. and J. Tod for the new Orient liner *Oriana*—one of 21 now building for this order. The Tod boat was one of 10 plastics hulls shown by the company, ranging

in size from 7 ft. 6 in. upwards, all with finishing colour moulded in.

Older materials presented with the latest methods of fabrication featured on the Birmabright stand, where a 15-ft. hull constructed entirely of unpainted Birmabright corrosion-resistant aluminium alloy was on view; on the Fairey Marine stand, which carried examples of hot-moulded laminated wood hulls, including a Ministry of Transport-approved ship's lifeboat; and on the Folland Aircraft stand, where hulls produced of stretch-formed heavy-gauge aluminium alloy were demonstrated. The stretch-forming technique permits double curvature to be built into the shape of an aluminium boat for the first time in this country and results in an extremely high strength-weight ratio with only two joints in the hull.

New Engines

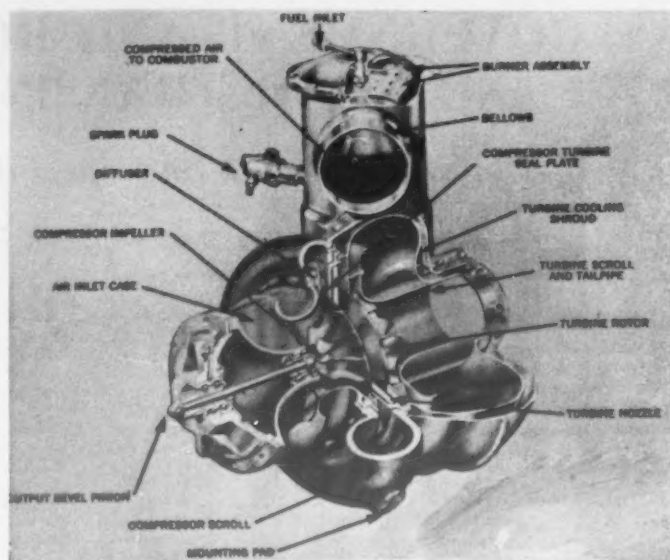
New power units of various types were introduced by a number of companies, the Perkins concern coming forward with a new marine diesel, a new small gas turbine and new ideas in petrol-driven outboard motors. The range of Perkins outboards from 6 to 35 h.p. was shown for the first time and with production now in full swing they were shown at prices reduced in amount by up to 20 per cent. The 35-h.p. engine, for example, now costs £195—a cut of £43—and it was announced that this unit will shortly be available as a twin pack with contra-rotating propellers, thus eliminating the undesirable side thrust and cavitation experienced when twin outboards with propellers rotating in the same direction are used.

The new Perkins diesel was the Six 305 (M), a 5-litre in-line unit that develops 84 s.h.p. at 2,400 r.p.m. (intermittent rating) and 68 s.h.p. at 2,000 r.p.m. (continuous). Shown with an oil-operated gearbox, the new engine embodies chromium-plated liners, C.A.V. distributor fuel-injection pump and Thermostart cold-starting aid and the

well-known Perkins combustion system. The Six 305 is suitable for any form of liquid cooling and is available with direct drive or 2 to 1 or 3 to 1 reduction gear, banded propeller rotation being offered with the geared versions. Among the range of diesels exhibited by Perkins was a Four 99, rated at 28 s.h.p. at 2,500 r.p.m. (other ratings for this engine are as high as 40 s.h.p. at 3,600 r.p.m.) fitted with automatic clutch and Hundedest reversible-pitch propeller and stern gear.

Although not offered as a main propulsion engine, the Perkins-built American-designed Mars 50-h.p. gas turbine on the stand, where it was shown powering a portable 500-g.p.m. water pump, created a great deal of interest. The gas turbine weighs only 98 lb, has only three major moving parts and will run equally well on diesel fuel, paraffin or low-grade petrol; complete with water pump the weight is 172 lb. Intended primarily for emergency and stand-by applications, the Mars gas turbine can be started by hand or electric motor; it has many potential auxiliary applications, where its light weight, compact dimensions and easy portability would be advantageous.

The Mars is the smallest of a range of industrial gas turbines designed and developed by the Solar



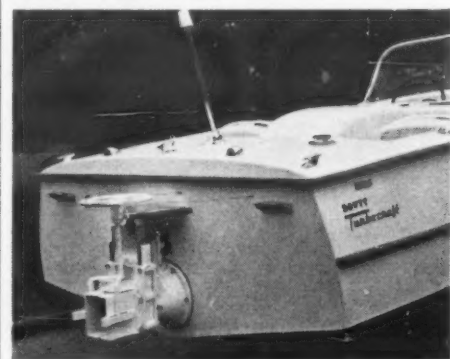
Cutaway view of the 50-h.p. Mars gas turbine now built by Perkins Engines, Limited

Aircraft Company, San Diego, which by agreement Perkins Gas Turbines, Limited, now has rights to manufacture and sell throughout Europe, Africa and the Commonwealth (except Canada). The Peterborough company is concentrating initially on manufacturing the 50 h.p. Mars and plans eventually to produce also 80-h.p. and 170-h.p. units as well as to market American-built turbines of up to 1,500 h.p. The Mars, which is a simple-cycle gas turbine employing a single-stage centrifugal compressor and a single-stage radial inward-flow turbine mounted on a single shaft, has been produced and sold in large numbers in the United States, particularly as air-borne electric generator sets.

Most of the automotive diesel engine makers were represented at the show, including Albion, B.M.C., Ford, Foden, Leyland, Rolls-Royce and Thornycroft, as well as all the traditional marine engine builders. A new departure by Petters, Limited, resulted in three new propulsion units on its stand based on other manufacturers' engines. These were a 20-s.h.p. petrol unit designed round the Triumph Herald car engine, a 42-s.h.p. diesel unit using the Standard 23CV engine and a 22-h.p. unit based on the Armstrong Siddeley air-cooled twin-cylinder diesel engine.

Propulsion Gear

Water-jet propulsion has become a necessity for certain types of craft designed for operation in



Stern view of the Dowty Turbocraft showing two-stage jet propulsion unit

very shallow or weed-infested waters, and Row-hedge Ironworks Company has been producing Gill jet-propulsion units, capable of absorbing from 23 to 50 b.h.p., for some time. Now the advantages of great manoeuvrability and greater safety due to the elimination of the usual stern gear has been made available to a wider field of application by the introduction at the show on the Rotol stand of the Dowty Turbocraft.

This boat is a 14 ft. 6 in. by 5 ft. 9 in. fast runabout of resin-glass construction developed by a new Dowty Group company, Dowty Marine, Limited. The boat is powered by a Ford Zephyr petrol engine of about 70 b.h.p. at 3,500 r.p.m. directly coupled to a Dowty-Hamilton two-stage marine jet. The propulsion unit performs all the normal functions of gearbox, propeller and rudder and can therefore operate in very shallow water or in the vicinity of bathes without the risk of injury from turning machinery.

Outstanding Acceleration

The propulsion unit draws water into a turbine through a steel grid fitted flush with the bottom of the boat and ejects it through the transom as a jet stream. The grid keeps out large debris though the unit is designed to pass small particles of sand and so on without damage. The unit is said to be extremely quiet and to require very little maintenance. Full power is available on starting and the maximum progressive increase in thrust gives the boat outstanding acceleration. Control is simple; a hand-operated lever system moves a gate by which the jet is fully cleared (ahead), completely blanked (neutral) or deflected forward under the hull (reverse). Wheel steering fitted to the boat shown connects with two steering vanes on the propulsion unit, which deflect the jet stream and provide high manoeuvrability.

The propulsion unit is designed to provide cooling water to the engine through a controllable bleed-off and can also be used, by manipulating a cock, as a bilge pump.

Modern Marine Drives had a useful new propulsion unit on show which combines the advantages of a conventional inboard diesel engine and forward-reverse gearbox with the flexibility of an outboard engine. The design, which is the subject of a patent application, permits removal and replacement as easily as with an outboard and incorporates hydraulic tilting to clear obstructions. Shown with a 6½-h.p. diesel engine, it is capable of transmitting up to 25 h.p.

Oldham electric lamps, as used by nearly a million miners every day all over the world, have helped engineers in Australia to set up what is claimed as a world record for tunnelling—563 ft. in a six-day working week, established recently in the 10-mile long Murrumbidgee—Euclidean tunnel forming part of the Snowy Mountain Scheme.

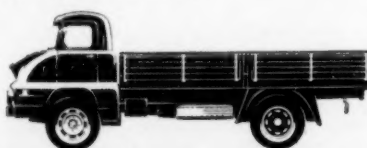


THE BIGGEST COCKTAIL-SHAKER IN THE WORLD!

Here comes "the biggest cocktail-shaker in the world"—that's the nickname they give to the spanking new blue and red wine tanker recently built on a Thames Trader Articulated chassis to speed bulk deliveries of Martini on their way. Twice a day the tanker pulls alongside the vast new Martini warehouse in the Port of London and, in a matter of minutes, fills up with 2,000 gallons of this popular Italian aperitif. Then it's full speed ahead for the bottling stores where the wine will be racked, roused, sampled and passed

in traditional manner—just as if it had arrived in the old-fashioned hogshead. "Seems a pity, though", said the smartly-uniformed Martini driver from the comfort of his Thames Trader cab, "that all the people who call out 'cheers' on the way can't stop me and have one!" Wine by tanker is yet another example of the ingenious ways in which the Thames range can save time and money in so many fields of trade and industry. If you have a specialised transport problem which has yet to be solved satisfactorily,

why not discuss it this week with your Ford Dealer—his ideas might be worth a lot to your business!



Whatever your transport problem there's a Thames truck or chassis built to build YOUR business. Make your 'tonnage' choice from the 30 cwt. to 10 ton range and choose from the 4 or 6 cyl. engines with an option of petrol or diesel power.

BEST SELLING TRUCKS IN BRITAIN

THAMES TRADERS BY FORD

30 HUNDREDWEIGHT TO 10 TONS

COUPLING ASSORTED RAILCARS

Control of Different Types in One Train

RAILCARS with Rolls-Royce engines, torque converters and controls are capable of being coupled to existing railcar stock having engines of a different power driving through fluid couplings and gearboxes or other transmissions. Rolls-Royce, Limited, has worked out several miscible control schemes and in no case were modifications required to the existing cars, nor did the new control system require more wires along the train than were already in use.

The new cars had to operate on receiving signals from the driving cabs of existing cars and, with the driver in one of the new cars, the controlling signals sent along the train had to be the same as the existing cars had been already designed to accept. This predicated the use of the same system of throttle control, which is notched in four steps. There was no disadvantage in this as the Rolls-Royce continuously variable transmission smooths out the steps imperceptibly and reduces the risk of wheel slip.

The Rolls-Royce equipment requires no gear-changing and so these signals are simply passed through the new cars without any note being taken of them. The locking-out of the torque converters is done automatically and independently in the new cars without needing any action on the part of the driver or signal along the length of the train. No gear lever is required by the new cars, although one had to be provided to give the gear-changing signals for any cars of the existing type that may be coupled behind to form a mixed train.

A sliding dog clutch in the final drive on the driven axles reverses both the new and the existing cars and the same reversing signals operate all cars in a mixed train. In the existing cars, if the teeth meet end-on-end, the dogs are pulled into engagement by the drag through the gearbox in its neutral condition. The Rolls-Royce torque converters have been arranged to come automatically out of neutral for an instant if the associated final drive needs dragging into engagement; meanwhile, the engines in that car are automatically held at idling speed. The usual lights in the cabs indicate when the final drives are engaged.

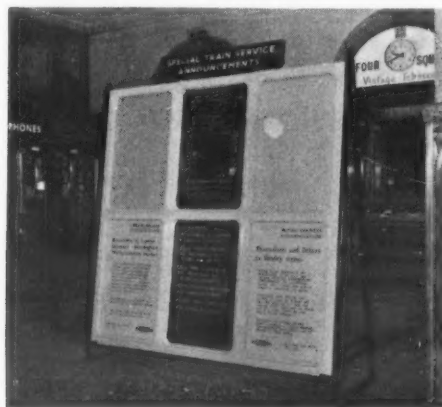
Whenever any gear is selected from either the new or the old cabs, the torque converters move out of neutral to put the new cars into the driving condition. Thus it is that the driver's instructions are the same whether he is driving a train from a new car or one of the older type. The only disadvantage of this is that the engines in the new cars, are unnecessarily throttled down during gear-changes in the old cars. However, if a train consists entirely of new cars, the driver can keep the throttle wide open all the time if desired; a blanking plate can be fitted to prevent the unwanted gear positions from being selected to no purpose.

Rolls-Royce, Limited, is prepared to investigate potential customers' existing railcars to see whether a system of control and protection can be devised to enable new cars equipped with Rolls-Royce engines and transmissions to be coupled to existing ones without harm or inconvenience.

WORK ON THE LINE

New L.M.R. Announcement Board

PROGRESS of the London Midland Region electrification and modernisation schemes has made it particularly necessary that passengers should be kept fully aware of what is going on, and of the consequential alterations, diversions and delays which arise often at short notice. The special announcement board shown in



The new announcement board designed particularly to cope with the effects on train services of the L.M.R. electrification work

the accompanying illustration has been designed to bring together all these notices.

The display board consists of a free standing panel containing six d.p.-sized frames covered in translucent plastics, with chalkable boards which are inserted from the back. The surrounds and frames are bright yellow and panels not in use are coloured a pastel shade.

TRACK WELDING REPAIRS

B.O.G. Service to B.R.

TRACK maintenance on 51,000 miles of British Railways permanent way last year included oxy-acetylene welded repairs to nearly 24,000 crossings and more than 1,000 switches. Almost 40,000 traction bonds on electrified tracks received attention at the same time. In completing this programme more than 6 million cu. ft. of oxygen, nearly 7 million cu. ft. of dissolved acetylene and about 40 tons of welding rod were used.

Since the adoption in 1936 of oxy-acetylene welding in the repair of railway tracks, 364,000 crossings and 17,000 switches have benefited from this maintenance. The nature of the work undertaken by British Railways welders is that of depositing suitable metal over worn and damaged parts of wing rails and points of crossings, the deposit then being hammer-forged, while hot, to conform to the contour of the rail.

Training

Operators begin their career by learning oxy-acetylene welding processes for four weeks at a recognised school. They then spend a probationary period of three months in repairing crossings on sidings or on secondary tracks. Most operators are trained at the Cricklewood welding school of British Oxygen Gases, Limited, or at a welding school in the trainee's district. Representatives of British Oxygen Gases and British Railways inspectors act as examiners throughout the initial period, after which, subject to satisfactory workmanship, railway welders continue their careers on all parts of the permanent way.

Annual service visits are made to all welders on track, when a thorough check of their equipment, tools and gas deliveries is backed by advice and assistance where desired. The welding of copper traction bonds is undertaken in electrified railway areas, where welders receive additional instruction in carrying out such work. Bonds are constructed of one or more ropes of stranded copper wire welded directly to the rail. Electrical efficiency is maintained throughout the life of the bond.

Courtaulds in Transport

LONDON EXHIBITION TO BE STAGED

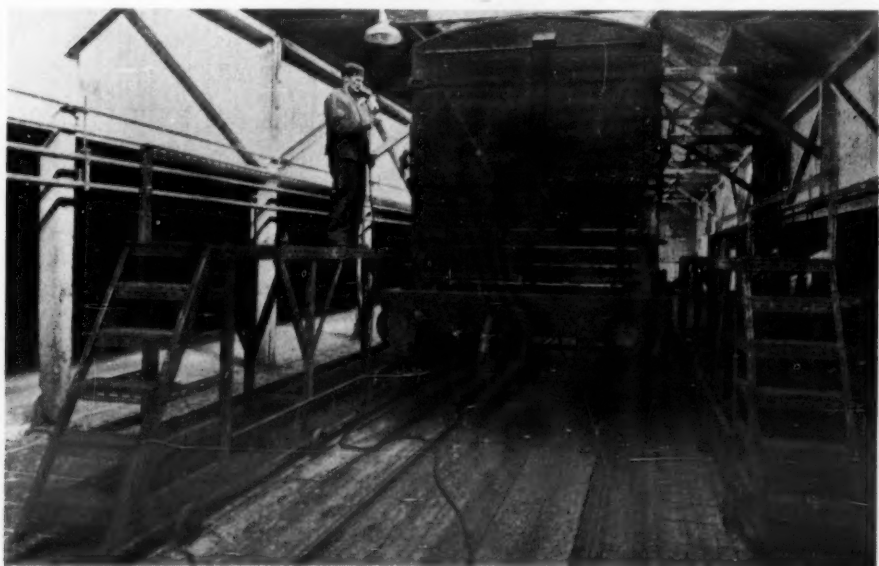
A MAJOR exhibition, which will be of interest to all sections of the transport industry, is being held in Celanese House, Hanover Square, London, W.1, for a week from January 21 next. Entitled "Courtaulds in Transport," the exhibition will demonstrate the substantial contribution which is made to the transport industry by Courtaulds, Limited, and its subsidiary companies. In addition to the use in the industry of the many products of the group, which range from furnishing textiles and tyre cord to chemicals and paints, this contribution includes close co-operation with the industry in the development and application of new products to meet new problems.

The total number of different exhibits will run well into four figures and will cover a wide variety of

different types of products. A considerable percentage of these exhibits will contain man-made fibres from Courtaulds and British Celanese, but chemicals, plastics and paints from other companies in the group, such as British Cellophane and Cellon, in transport uses will also be well represented.

One of the major exhibits will be a 41-seat luxury coach completely fitted out with carpets, upholstery fabrics, heat and sound insulation, luggage racks and many other items, all derived from products of the Courtaulds Group. It is planned that other major exhibits will include a ship's cabin and a section of an air liner cabin.

All interested members of the transport industry are invited to visit the exhibition, to which admission is by invitation or trade card.



Two mobile platforms giving easy access for wagon painting constructed of Dexion slotted angle at British Railways Derby works. Total cost of material was £40



SAR Coach Tours provide refreshingly new and varied holidays . . . spectacular scenery, wild life in the famous Game Reserve, charming homesteads, swimming in the Indian Ocean—and, of course, South African sunshine all the way! Coaches are comfortable and up-to-the-minute, costs are low and include meals, accommodation and courier-driver service.

It pays you to recommend SAR Coach Tours . . . for information contact Commercial Representative:

SOUTH AFRICAN RAILWAYS

South Africa House, Trafalgar Square, London, W.C.2 Telephone: WHitehall 4488



ALAMEIDA HUMP YARD CHILE



ANOTHER IMPORTANT MARSHALLING YARD INSTALLATION USING

WESTINGHOUSE EQUIPMENT

has now been in service for several months. It was installed by the Railway Staff and is the only such hump yard in South America in which the destination and speed of wagons from the hump to the sorting sidings is determined from a central control desk.

The control desk, relay racks and relays for the route unit progression system, rail circuit equipment and electro-pneumatic point layouts were supplied by WESTINGHOUSE BRAKE & SIGNAL CO. LTD. OF LONDON, and the retarders and associated air equipment were supplied by the Union Switch & Signal Division of the Westinghouse Air Brake Co., Swissvale, U.S.A.

Westinghouse Brake and Signal Co. Ltd., 82 York Way, London, N.1

Saxby & Farmer (India) Private Ltd., Calcutta
McKenzie & Holland (Australia) Pty. Ltd., Melbourne
Westinghouse Brake & Signal Co. S.A. (Pty.) Ltd., Johannesburg
Agents:—Bellamy & Lambie, Johannesburg

HALF-A-CENTURY OF POWER SIGNALLING

Greater speed and simplicity in remote signal control



WITH THE

MV-GRS Type S remote control system

The Type S remote control system, developed by MV-GRS, provides a swift, simple and economical means of remote control and indication, using a minimum of apparatus. Designed specifically for remote control of a single location this 'synchronous stepping' code system is based on a unique principle employing the free swings of two mechanical oscillators—one at each end of the circuit—to create the steps of the code.

METHOD OF OPERATION

CONTROL action completed in 1 second
To control a field device, a switch on the control machine is moved to set up the appropriate code in the control office application unit. This code is transferred to the stepper unit and transmitted over the line circuit to the field apparatus. The field stepper unit on receiving the code applies it to the field application unit, which responds to the particular code message and controls the function relay operating the field device. This entire control operation takes approximately one second to complete.

INDICATION given in 2 seconds
When a field device changes position, it notifies the field application unit which automatically starts the stepper unit transmitting the appropriate code back to the control office, where an indication light on the control panel diagram shows the new position of the field device. Indication is completed in about two seconds.

SIMPLEX AND DUPLEX SYSTEMS
Type S remote control system installations of many types can be furnished to meet specific traffic requirements, from a Simplex 7-step system with a capacity of 32 control codes, to a Duplex 11-step system providing a maximum of 1,024 control codes.

Already this MV-GRS system has proved highly successful in many installations, and over transmission distances of up to 200 miles. As in all coded systems, codes are contained in a series of steps, or intervals. However, with the Type S system the use of mechanical oscillators to create the steps ensures that codes are of uniform length and that stepping speeds are always constant irrespective of normal voltage variations. Conventional signal lines can be employed and provision made for voice or telegraphic communication over the same wires if desired.

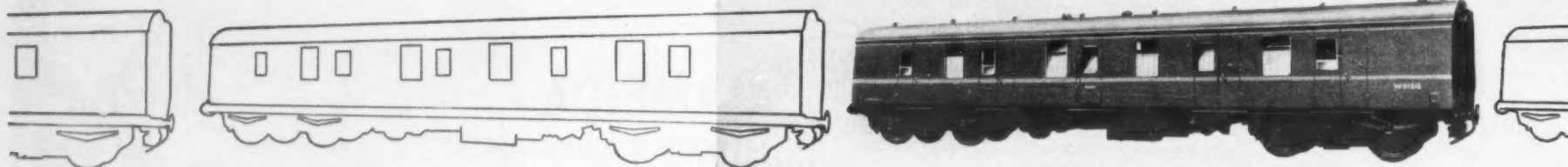
Each installation has its own individual problems in the solution of which MV-GRS Engineers are always ready to co-operate and make suitable suggestions.



METROPOLITAN-VICKERS-GRS LTD · 132-135 LONG ACRE · LONDON WC2 · TEMPLE BAR 3444
An A.E.I. Company.

BOMBAY, CALCUTTA, CAPE TOWN, JOHANNESBURG, SYDNEY, WELLINGTON, SALISBURY, BULAWAYO

MV-GRS LEADING SIGNALLING PROGRESS



A train 300 miles long

In the last eight years, Pressed Steel have produced enough railway rolling stock to make a train over 300 miles long. Rolling stock of all types, for all gauges, at home and overseas. You see some of these wagons and carriages opposite.

Clearly, Pressed Steel have enormous productivity. Their record shows it. But what the figures do not show is the store of experience built up by our designers and engineers over the last 300 miles of rolling stock. At Pressed Steel we use this experience to make sure that each wagon we produce is a sound engineering job, that it is produced as economically as possible, and in an absolute minimum of time. And we use this experience in intensive research, which will enable us to play our part in developing new and better carriages and wagons in the future.

PRESSED STEEL COMPANY LIMITED



RAILWAY DIVISION, PAISLEY, SCOTLAND.
London Office: RAILWAY DIVISION,
47 VICTORIA STREET, LONDON, S.W.1
Head Office: COWLEY, OXFORD.

Manufacturers also of motor car bodies,
Prestcold refrigeration equipment and
pressings of all kinds.

NEWS FROM ALL QUARTERS

New Halt for Railbuses

The Western Region opened a new halt at Park Leaze, between Kemble and Cirencester, on January 4. The service between Kemble and Cirencester is operated by railbuses, introduced experimentally in an endeavour to make the branch self-supporting.

London Trolleybus for Paris Collection

A second London Transport trolleybus is to be preserved, in Paris. Trolleybus No. 796, a Leyland M.C.W. 70-seater, is to be presented to the Association pour le Musée des Transports Urbains, Interurbains et Ruraux in Paris. No. 260, which has been earmarked by London Transport, is now in the Clapham museum.

Another London Oil Pipeline?

A 75-mile pipeline between Fawley refinery and a site on the southern perimeter of London Airport near Stanwell is being proposed by the Esso Petroleum Co., Limited. All grades of light oils would be pumped through the pipeline, which would cost £2½ million and would serve the whole of West London. Shell-Mex and B.P., Limited, has a scheme for a pipeline from the Thames to London Airport.

Contents of First-Aid Boxes

First-aid boxes, cases and cupboards for all workers in factories, at docks or on building sites throughout the country have important changes made in their obligatory contents since January 1, when new regulations made by the Minister of Labour under the Factories Acts came into operation. These changes have arisen from the advances made in medical and first-aid treatment of injuries during the last quarter of a century.

Better Gambia Communications

Heavy goods traffic can now cross the channel separating Bathurst, capital of Gambia and its seaport, from the mainland. A bridge across Oyster Creek (between St. Mary Island on which Bathurst stands, and the mainland) was opened recently by the Governor of the Gambia, Sir Edward Windley. Britain has contributed £103,650 of the cost of the bridge (£168,000) as a grant under the Colonial Development and Welfare Acts. Oyster Creek Bridge replaces Denton Bridge, a familiar landmark in the Gambia for more than 40 years. It is 720 ft. long overall, and 31 ft. wide with a 22-ft. carriageway and footways.

More Revenue for German Railway

For the first time in many years, the German Federal Railway has announced, this year will prove to have seen higher revenue and lower expenditure on the nationalised system than in the previous 12-month period. The deficit is expected to fall by some £8,350,000 in 1959, and no increases in passenger rates will have to be introduced in the coming year. Traffic on many routes was heavier last year, due mainly to a 10 per cent rise in the number of special trains organised by travel bureaux. The 1959 total was 3,224. There was an increase in reserved-seat travellers of 15 per cent on the previous year to some 600,000, a new record.

B.M.C. Plant in Southern Rhodesia

The British Motor Corporation £1 million assembly plant in Umtali, Southern Rhodesia, should begin production in seven months. Output should be 3,000 vehicles a year, made up mainly of cars but including commercial vehicles.

Indian Locomotive Manufacture

Negotiations are going on between the Indian Government and two U.K. concerns, the North British Locomotive Co., Limited, and Associated Electrical Industries, Limited, with a view to the manufacture of electric locomotives at Chitteranjan. Up to now Indian requirements of both electric and diesel locomotives have been met by imports.

Roadbuilding in the Sahara

Search for, and exploitation of, the oil resources of the Sahara has sponsored an exceptionally extensive programme of roadbuilding in the areas affected. A great part of the programme has already been carried out. Between Algiers and Hassi-Messaoud, via Laghouat, 560 miles of bituminous-surfaced highway have been constructed. Since 1955 the total of road construction measures 810 miles.

Kent Coast Electrification Results

In the six months that the new Southern Region Kent coast electric trains have been running ticket sales in the electrified area are nearly a third up on the same period of 1958, 40 per cent more passengers have arrived by rail in the area and local stations have earned an extra £50,000. These figures are not entirely due to the fine summer, since November ticket issues were 30 per cent up on 1958. At Rainham (Kent) receipts are up 300 per cent.

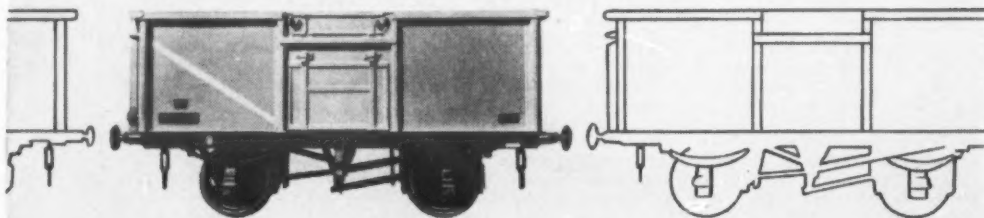
Special Metropolitan Line Timetable

A new Metropolitan Line timetable providing for temporary increases in train journey times while modernisation work is in progress came into force on January 4. London Midland Region steam train services to and from Marylebone are similarly affected. On Mondays to Fridays some Aylesbury trains will run to and from Marylebone, instead of Baker Street, making use of an additional L.M.R. steam train. On Sunday the direct service between Rickmansworth and Watford (Met.) Station will be suspended. These trains normally run from Baker Street to Rickmansworth and then reverse to Watford and vice versa.

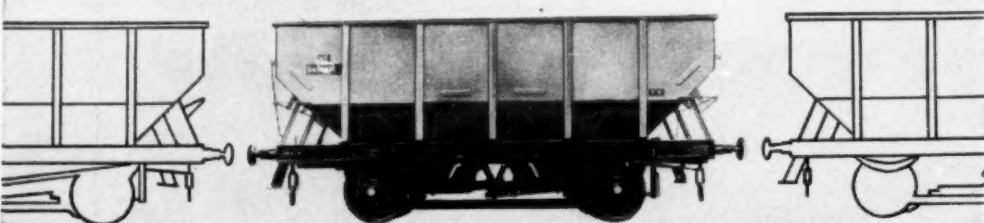
Road-Hauled Coal Subsidy Ends

A levy on South African Railways since July, 1954, to subsidise the transport of coal by road was discontinued on September 30, 1959, and the subsidised transport of coal ceased altogether on December 31. South African Railways was unable in 1954 to provide wagons for all the coal offering but says it can now meet all requirements. Road transport was subsidised to fill the gap and to meet the additional transport costs. The original scheme was expected to last only for the winter of 1954. The total levy paid over the period of five years was £1,146,889 against 11,693,005 tons of road-borne coal.

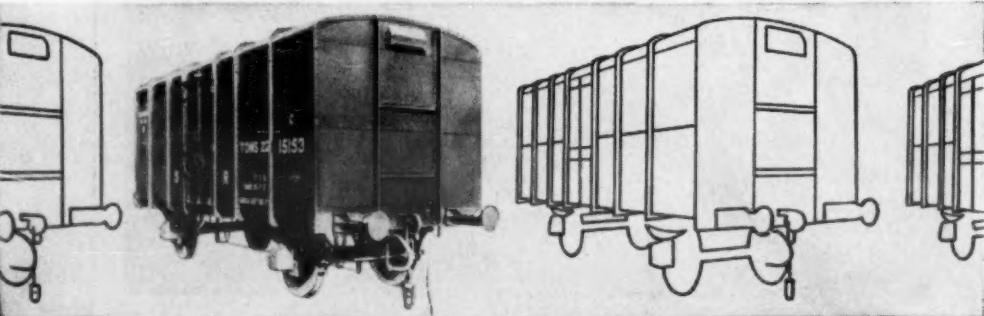
The 58-foot Gangwayed Standard Brakevan, supplied by Pressed Steel to British Railways.



16-ton all steel Mineral Wagon. 72,000 of these have already been delivered from our Paisley works.



21-ton Hopper-type Wagon with drop bottom door for minerals, as used by British Railways.



Broad-gauge Covered Wagon type C.R., as used by Indian Railways.

COMMERCIAL AVIATION

B.E.A. Helicopter Plans

IMPROVED RESULTS

APPLICATION has been made by British European Airways to the Air Transport Advisory Council for helicopter services between London and Paris, Brussels, and Amsterdam, London, Birmingham and Manchester, and Lands End and the Isles of Scilly. It is probable that operation would commence with the Sikorsky S.61 and/or Vertol 107 and that the Fairy Rotodyne might subsequently be used. Initial route is likely to be that between Lands End and the Scillies where replacement of the de Havilland Dragon Rapides is bound to become an urgent matter.

B.T.C. Interest in Silver City?

It has now been officially indicated that discussions are taking place between the British Transport Commission and the British Aviation Services group with a view to the Commission acquiring a minority interest in Silver City Airways, a wholly-owned subsidiary of B.A.S. and its largest operating company. Silver City has, for nearly 12 years, been concerned particularly with vehicle ferry services to the Continent and has provided the air link in the rail-air-rail Silver Arrow service between London and Paris.

S.A.S. Earns More

Scandinavian Airlines System has announced total revenues for the fiscal year ending September 30, 1959, of £38,089,000, an increase of £413,000 over the preceding period. It carried 1,590,000 passengers, 14.4 million kg. of cargo and 6.1 million kg. of mail. Traffic revenue totalled £35,813,000, after deductions for commissions, and other income totalled £2,275,000. After covering the year's expenses and allowing for depreciation of £3,551,000 the accounts balanced. S.A.S. offered 384 million ton km., of which 211 million were sold—representing a 4 per cent increase over the same period a year ago.

B.E.A. Taste-it-yourself Exhibition

A small "taste-it-yourself" exhibition demonstrating how the catering branch of British European Airways selects, prepares and serves meals to more than three million passengers a year, opened on January 4 in Dorland House, Regent Street, S.W.1. The exhibition, in two sections, is open to the general public and visitors are offered samples of wines and cheeses similar to those served in the air to B.E.A. passengers. Small catering souvenirs—such as book matches and condiment sets—are available for visitors to take away. In half the exhibition, seats are arranged as in a Viscount and each day 24 first-class lunches are served by B.E.A. stewards and stewardesses from an aircraft galley. The guests at lunch are specially-invited representatives of the Press and travel agencies. The exhibition is open on weekdays from 9.30 a.m. to 5 p.m. (9.30 a.m. to 2 p.m. on Saturdays) until January 16.

T.W.A. Reports Record Revenue

Trans World Airlines has announced record income and traffic for the first nine months of 1959. By the end of the third quarter total revenue had mounted to \$263,439,000 and 4,393 million revenue passenger-miles were flown during the nine-month period; more than any other airline in the world, according to the T.W.A. president, Mr. Charles S. Thomas. Net profit, before taxes, of \$18,353,000 for the nine-month span was greater than for any similar period in the company's history. Record traffic volumes, firm cost control and the widespread attraction of T.W.A. new jets were principally responsible for the record profit figure. The year-to-date profit figure compares with last year's loss over the same period of \$1,116,000. The airline had experienced an 18.2 per cent increase in total operating revenues during the first nine months and yet had succeeded in holding the increase in operating expenses to only 9.7 per cent more than in the same period last year.

Flying Tiger Traffic

November air freight revenues of the Flying Tiger Line showed a gain of 16.4 per cent over the same month last year, it was stated by Mr. John L. Higgins, vice-president. November traffic totalled \$1,295,064 against \$1,112,230 last year, while volume for the 11 months of the year rose 31 per cent to \$14,168,469. For the same period of 1958, traffic totalled \$10,761,269. A joint sales research programme to develop a "break-through" tariff which will bring air freight rates down to levels competitive with many road and rail freight rates has been announced by Flying Tiger and Canadair. The two companies have agreed on a programme and supporting budget which will involve an expenditure of approximately \$200,000 in the next year. A research staff which has been working for several months for Flying Tiger under the direction of Mr. Robert L. Brunner, manager of the airline's rates and tariff department, will be joined by Mr. Keith A. Miller, manager of sales research for Canadair. In addition to the research groups of the two companies, Mr. Stanley H. Brewer, professor of transport in the University of Washington, and Roger B. Ulvestad, professor of transport in the University of California at Los Angeles, have been retained as consultants.

September Activity At British Airports

Air transport movements at United Kingdom aerodromes in September, 1959, numbered 41,229, an increase of 6 per cent compared with September last year; the number of passengers handled increased by 20 per cent to 1,039,682. Freight picked up and set down amounted to 30,551.6 short tons, an increase of 38 per cent. Airports in the London area as a whole showed an increase of 3 per cent in air transport movements, and an increase of 19 per cent in the number of passengers handled. At London Airport there were 12,496 air transport movements, an increase of 3 per cent compared with September last year, and 505,516 passengers were handled, an increase of 18 per cent. Most airports showed increases in passenger traffic over September, 1958, and amongst these were Gatwick by 66 per cent to 58,704, Glasgow (Renfrew) 28 per cent to 58,468, Isle of Man (Ronaldsway) 26 per cent to 24,741 and Edinburgh (Turnhouse) by 21 per cent to 18,225. Other large increases in passenger traffic were at Blackpool (Squires Gate) by 91 per cent to 11,098, Newcastle (Woolsington) by 72 per cent to 8,710, Portsmouth by 72 per cent to 1,430, Sumburgh 53 per cent to 1,614, Bournemouth (Hurn) by 51 per cent to 5,457, Leeds—Bradford (Yeadon) by 49 per cent to 6,422, Aberdeen (Dyce) by 35 per cent to 5,508, Machrihanish by 33 per cent to 1,954 and Southampton (Eastleigh) by 31 per cent to 19,463.

A NEW YEAR BARONY



George H. Nelson

**Sir GEORGE H. NELSON, Bart., LL.D.,
F.C.G.I., Hon. D.I.C., M.I.Mech.E., M.I.E.E.**

• • • • •

A lifetime of vigorous service to British industry and particularly in the electrical field has been royally commended in the New Year Honours List with the announcement that Her Majesty the Queen intends to confer a barony upon Sir George Horatio Nelson, chairman of the English Electric Co., Limited, since August, 1933, and its managing director from 1930 to 1956. In his youth Sir George had an exceptional academic career, being successful in gaining a Mitchell exhibition, a Brush studentship, and a diploma in electrical engineering of the City and Guilds Engineering College, London, before he was 18. His works training was obtained with the Brush Electrical Engineering Co., Limited, of Loughborough, and he subsequently became chief outside engineer to that company. In 1911 he joined the British Westinghouse Company (later Metropolitan-Vickers Electrical Co., Limited) in a similar capacity, and in 1915 became superintendent of the large machine, large and small motor, and traction motor departments of the Trafford Park works. In 1920 he assumed the management of the Sheffield works of the undertaking, co-ordinating the electrical factories of Vickers, Limited, and Metropolitan-Vickers, and equipping and organising a new factory for the manufacture of motors and materials for tramways and railway electrification. Just 10 years later Sir George was appointed managing director of the English Electric Co., Limited, and in August, 1933, became its chairman. In that year he had negotiated a large contract for railway electrification around Warsaw on behalf of English Electric and other companies and there followed a number of other substantial contracts including one with the Southern Railway in 1935 for 10 years' supply of electric train equipment. Under his chairmanship English Electric has greatly expanded its interests in many fields and among the companies which it controls are D. Napier and Son, Limited, Marconi's Wireless Telegraph Co., Limited, Vulcan Foundry, Limited, and Robert Stephenson and Hawthorns, Limited, while on its own account it made a most successful re-entry into aircraft construction. Sir George, who was knighted in 1943 and created a baronet in 1955, is a past-president of the Institution of Mechanical Engineers and of the Institution of Electrical Engineers and was elected to membership of the latter at the earliest age possible for such a distinction. He is president of the Locomotive and Allied Manufacturers' Association and, from 1943 to 1945, was president of the Federation of British Industries; he is also a past president of the British Electrical and Allied Manufacturers Association and of the British Electrical Power Convention. In May, 1957, the University of Manchester conferred upon him the honorary degree of doctor of laws. He has always maintained in his firm yet friendly manner the benefits of Commonwealth and international co-operation and under his judicious captaincy the endeavours of English Electric and its associates contribute much to that end.

NEW YEAR HONOURS

Transport and Industry

CIVIL SERVICE AWARDS

THE list of honours to be conferred by H.M. the Queen to mark the New Year contains a number of names connected with transport and Government departments and industries associated therewith. A selection of these is set out below.

BARON

Sir George Horatio Nelson, Bart., chairman, English Electric Co., Limited.

BARON FOR LIFE

Sir Alfred Charles Bossom, formerly M.P. for Maidstone, for political and public services (chairman, Air Rail, Limited).

PRIVY COUNCILLOR

John Dennis Profumo, O.B.E., M.P., Minister of State for Foreign Affairs (Joint Parliamentary Secretary, Ministry of Transport and Civil Aviation, 1953-57).

BARONET

George Richard Hedges Nugent, M.P., for political and public services (Joint Parliamentary Secretary, Ministry of Transport and Civil Aviation, 1957-59).

KNIGHTS BACHELOR

Myer Galpern, J.P., M.P., Lord Provost of Glasgow.

William Henry Glanville, C.B., C.B.E., Director, Road Research Laboratory, Department of Scientific and Industrial Research.

Edmund McNeill Cooper-Key, M.P., for political and public services (director, London General Cab Co., Limited).

Ronald Peter Morison, Q.C., for political and public services (independent chairman, executive committee, British Iron and Steel Federation).

John Barton Townley, for political and public services in Preston (vice-chairman, Northern Commercial Vehicles, Limited).

Arthur Bertram Waring, D.L., chairman and managing director, Joseph Lucas (Industries), Limited.

ORDER OF THE BATH

K.C.B.

Ludovic James Dunnett, C.B., C.M.G., Permanent Secretary, Ministry of Transport.

C.B.

R. H. Weir, Director-General of Engine Research and Development, Ministry of Aviation.

ORDER OF ST. MICHAEL AND ST. GEORGE

C.M.G.

Captain J. P. Williams, chairman, Australian Coastal Shipping Commission.

ORDER OF THE BRITISH EMPIRE

K.B.E.

James Robbie Farquharson, C.B.E., general manager, East African Railways and Harbours.

Rear Admiral Sir Matthew Sausse Slattery, C.B., chairman and managing director, Short Brothers and Harland, Limited. Until recently special adviser to the Prime Minister on the transport of Middle East oil.

C.B.E.

S. C. Bond, president, Traders Road Transport Association; D. D. Cruickshank, general manager, Renfrew, Dalmuir and Dumbarton works, Babcock and Wilcox, Limited; L. J. Davies, director of research and education, Rugby Research Laboratory, British Thomson-Houston Co., Limited; C. A. Dove, M.B.E., chairman and general manager, Nigerian Ports Authority; N. P. Newman, president, Joint Iron Council (chairman and managing director, Newman, Hender and Co., Limited).

H. A. J. Silley, chairman, R. and H. Green and Silley Weir, Limited; Captain N. W. Smith, commodore, Orient Line; G. E. Tonge, managing director, Hay's Wharf, Limited; C. T. Turner, managing director, Irving Air Chute of Great Britain, Limited; P. G. Tweedie, O.B.E., Chief Inspector of Accidents (Civil Aviation), Ministry of Aviation.

O.B.E.

E. H. Aldis, chief engineer, Qantas Empire Airways, Limited; A. E. Baker, senior engineer, Crown Agents; K. W. Barley, deputy head of Finance Department, Crown Agents; H. E. Barry, manager, trade relations department, head office, Shell-Mex and B.P., Limited; G. E. Bell, senior principal scientific officer, Ministry of Aviation; F. J. Breslin, lately principal inspector, Ministry of Aviation; A. W. W. Cole, manager, communications division, Marconi's Wireless Telegraph Co., Limited; P. Hyde, engineer commodore, B.P. Tanker Co., Limited; Captain A. C. Johnson, m.s. Cilecia, Anchor Line; H. W. R. Ogram, chairman, Humber Port Welfare Committee; G. F. Reader, senior engineer, Midland Division, Ministry of Transport; Captain J. Smith, superintendent in charge of new building, Ben Line Steamers; Captain T. B. Stoney, flight manager, Boeing 707 Flight, B.O.A.C.; A. Symm, manager, sales engineering, Bristol Aircraft, Limited; P. H. Watson, assistant director (engineer), aircraft design requirements, Ministry of Aviation; J. P. Young, divisional manager, Scotland, B.R.S.

M.B.E.

A. G. Akers, western area secretary, Road Haulage Association; A. Allen, chief development engineer, Cosor Radar and Electronics, Limited; J. Anderson, engineer, Cheshire River Road; A. B. Apperley, higher executive officer, Yorkshire Traffic Area, Ministry of Transport; H. W. Atkinson, senior executive officer, National Physical Laboratory, D.S.I.R.; A. V. Bannister, senior vehicle examiner, Metropolitan Traffic Area, Ministry of Transport; E. L. Bell, tariffs regulation superintendent, B.E.A.; E. A. H. Bolton, higher executive officer, Crown Agents; S. R. Brown, signals officer, Ministry of Aviation; E. J. Brackhurst, chief maintenance engineer, Trans-Australia Airlines.

A. G. W. Cannon, divisional manufacturing manager, Rugby, Associated Electrical Industries, Limited; J. V. Cross, mechanical and electrical engineer, London Airport, Air Ministry Directorate General of Works; Miss P. M. Evans, controller of typists, Ministry of Aviation; Captain F. Fischer, chief check and training captain, Trans-Australia Airlines; J. H. Forrest, technical manager, Kuwait Airport; L. G. Fowell, executive engineer and general manager, West Drayton, Pye, Limited; Captain W. J. T. Gosden, harbourmaster and traffic superintendent, Greenock Harbour Trust; D. S. Graham, in recognition of his services as civil aviation liaison officer, Department of Civil Aviation, during Royal visits to Australia; J. F. Harris, lately clerical officer, Ministry of Transport and Civil Aviation; D. A. Hewetson, telecommunications technical officer (II), Ronaldsway Airport.

J. T. Imrie, drawing office consultant, Fairfield Shipbuilding and Engineering Co., Limited; J. V. Jones, chief information officer, B.P. Refinery (Kent), Limited; R. E. Knowles, senior engineer surveyor, Ministry of Transport; E. J. Kydd, chief maintenance engineer, Qantas Empire Airways; W. McCartney, secretary, Scottish section, Federation of Civil Engineering Contractors; C. Macdonald, director and general contracts manager, Wailes Dove Bitumastic, Limited; A. L. Mather, chief examiner of motor vehicles, Nyasaland; H. Milne, chief engineer, m.v. Athelcrest, Athel Line; J. H. Lane-Nott, civil defence officer, Newport Division, Steel Company of Wales, Limited; T. B. Powell, senior executive officer, Ministry of Aviation.

J. W. Reilly, in recognition of his services as transport officer, Department of Supply, during Royal visits to Australia; F. M. Reynolds, senior surveyor, Air Registration Board; J. Ringland, assistant manager, electrical department, Belfast, Harland and Wolff, Limited; D. Rodger, manager, marine department, Vickers-Armstrongs (Engineers), Limited; P. C. Shaw, chief electrical engineer, m.s. Dominion Monarch, Shaw, Savill and Albion; G. Smith, district signal assistant, York, North Eastern Region; T. A. Sawyer-Spelling, line maintenance engineer, Mid-east Aircraft Service Company, Lebanon; Miss W. M. Springfield, principal secretary to the chairman, Imperial Chemical Industries, Limited; E. A. Stanley, permanent way

(Continued on page 14)

What you gain on the swings...

PAINTED WAGONS roll along the summer roads of Britain. The fun of the fair is on the move. Loaded convoys are bringing bustling blaring life to surprised meadows. For a day, two days, merry-go-rounds and dodgem cars whizz among the daisies. Excited children jig with wonder. Then, quickly as they came, stalls and shies, caravans, dogs and people vanish. And are off on the road again.

THE SMALL WORLD OF SMITHS

Among those who live their life on wheels are the Smiths. A big family who travel together from Birmingham to Gloucester, from Hereford to Oxford, from Easter to October. Sam Smith, his wife and 14-year-old son are part of that small world.

On the fairground Sam runs 6 swingboats and 8 slot machines. On the road he drives a lorry with the family's 4 ton caravan in tow and all the swingboat gear, slot machines and a small generator on board. The lorry is no ordinary vehicle, as Sam will proudly tell you. "It's the best motor was ever made—in front of anything else today. That motor will go for ever and a day." The motor is a 1949 Austin 2 tonner.

SAM'S REMARKABLE VETERAN

Before Sam Smith bought it, his Austin worked hard for the General Electric Co. Ltd., Birmingham. "I've had it 4 years now and I haven't spent a bean on it. She stands out all winter too and when it's time to go I push the button and we're off. Never have to use the handle."

What does Mrs. Smith say? "The lorry? It's a real good one. Yesterday it flew up that hill by Camden—never even got warm. It was lovely!"

"Never bother me, hills don't," Sam agrees. "The lorry just keeps pulling all the way. It's a pleasure to go anywhere—we all go to the pictures in it. I wouldn't swap it for anything." He should know—he's been driving for 25 years now.

What about petrol consumption? "25 m.p.g. empty, 15 m.p.g. loaded." Look sceptical and he'll say, "I ain't kidding. It's definitely been a good lorry. It's done its job and done it well." What Sam Smith makes on the swings he doesn't lose on the roundabout with Austin!

The veterans of the future will be found in the present Austin range—widest commercial range in Britain today. $\frac{1}{2}$ to 2 ton vans, 2 to 7 ton trucks—tipper, prime movers, chassis units for any type of bodywork. LWB or SWB. N.C. or F.C. Petrol or diesel. All with 12 months' warranty and backed by B.M.C. Service—Britain's best service and parts organisation.

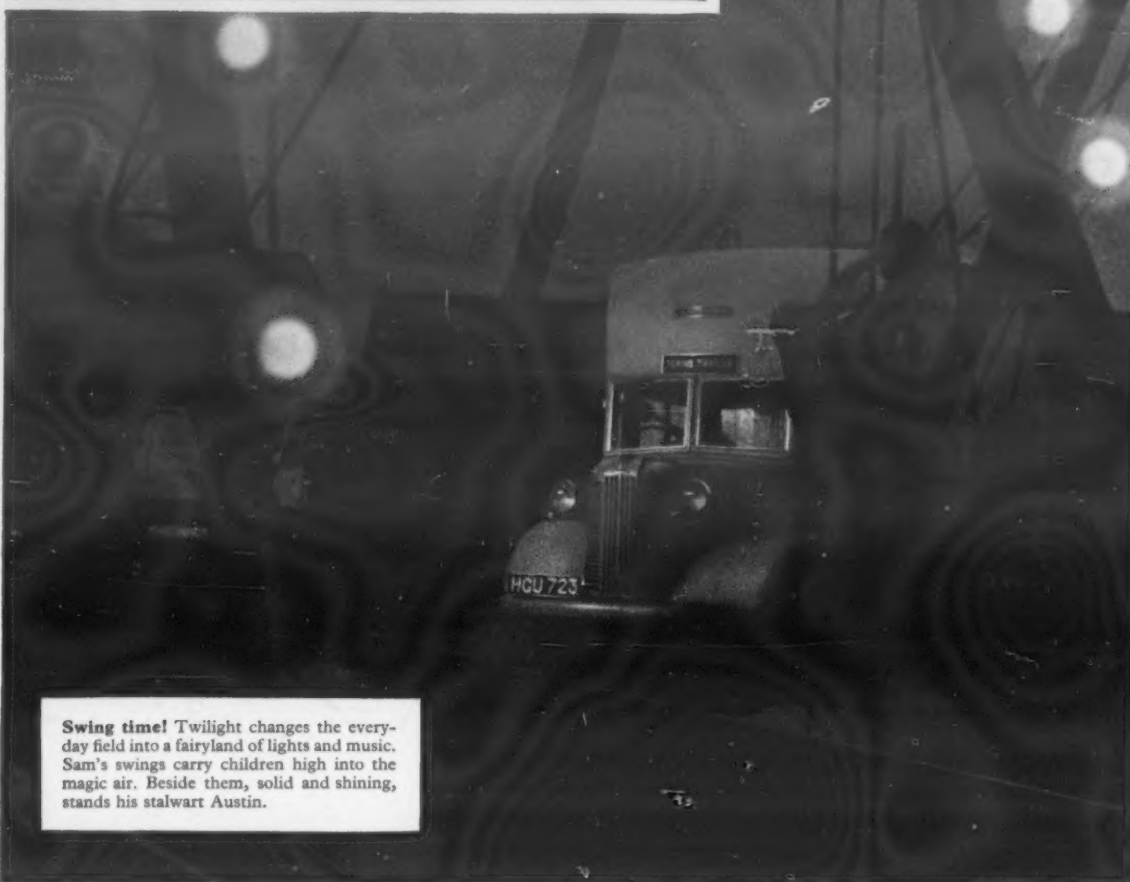
AUSTIN



THE AUSTIN MOTOR COMPANY LIMITED • LONGBRIDGE • BIRMINGHAM



The fair goes up. Sam Smith's 10-year-old Austin 2 tonner carries a generator, all his gear, and tows his 4 ton caravan as well. It comes in handy too for erecting and dismantling the swingboats.



Swing time! Twilight changes the everyday field into a fairyland of lights and music. Sam's swings carry children high into the magic air. Beside them, solid and shining, stands his stalwart Austin.

Sketched at the Homalloy Works

Putting the finishing touches to a cab on an Atkinson chassis. The cab is fabricated from structural plastics, using Beetle Polyester Resin. Holmes (Preston) Ltd. make wide use of this modern body-building technique.

Sketch by John Ross, copyright of:

B.I.P. Chemicals Limited • Oldbury • Birmingham



SEA LINKS WITH THE CONTINENT

24—Facilities in Scotland (Cont.)*

ONE of the most interesting lines operating regularly from Scotland is that of Glen and Co., Limited, from Glasgow direct to Gothenburg with approximately weekly sailings upon which the steamships *Cara*, *Meta*, *Runa*, *Shuna*, *Thelma*, *Wenga* and *Zena* are engaged. Glasgow loading berth is usually Princes' Dock and the voyage is by the "northabout" route. An examination of the accompanying map will show that this service also caters for Preston, Dublin and Belfast cargo on the one hand and for a wide range of Norwegian and Swedish ports on the other. Goods are taken on through rates to all parts of Sweden, also Oslo, Fredrickshaven and Copenhagen.

Currie Line, Limited, is concerned with sailings to Finland jointly with Finland Steamship Co., Limited, serving Turku (Åbo), west coast ports Helsinki and Kotka from Grangemouth (Carron Dock) fortnightly. Typical vessels recently engaged on these services are the British s.s. *Rutland*, of 1,903 gross tons, and the Finnish s.s. *Argo*, of 1,800 gross tons. Arrangements can be made for the conveyance of through traffic from Glasgow via Grangemouth.

Denmark is also served by the Currie Line sailing from Leith fortnightly to Copenhagen. The latter port is of course the centre of operations for Det forenede Dampskibs-Selskab A/S—the United Steamship Co., Limited—which maintains a regular service to and from Leith and Danish provincial ports including Aalborg, Aarhus and Odense. Usual loading berth is Albert Dock, Leith and Furness, Withy and Co., Limited, acts as loading broker in that port.

Germany

Germany is yet another Currie Line-served country, with sailings from both Leith and Grangemouth to Hamburg and Bremen in conjunction with Argo Reederei, Richard Adler and Sohne frequently with modern motor vessels which usually run alternately. Typical of these are the m.v. *Pentland*, a Currie vessel of 876 gross tons, and m.v. *Falke*, an Argo vessel of 1,461 gross tons. Argo Line vessels serve Dundee if inducement offers, by arrangement with Dundee, Perth and London Shipping Co., Limited, of Dundee, which will also attend to Currie Line inquiries.

The port of Aberdeen also has inducement connections with Germany through the Aberdeen Steam Navigation Co., Limited, and Richard Cannon, Reid and Company, loading broker, should be consulted in regard to cargo for Hamburg and Bremen from Aberdeen.

Netherlands, Belgium and France

One of the widest networks in the short sea trade is that provided by Gibson Rankine Line. Formed by the old-established shipowners Geo. Gibson and Co., Limited, of Leith, and Jas. Rankine and Son, Limited, of Glasgow, a fleet of 15 modern motor vessels operates today on a frequent regular basis from Leith and/or Grangemouth with other sailings from Aberdeen and Dundee to Amsterdam, Antwerp, Dunkirk, Ghent, Rotterdam, Rouen and Paris. Another service operates from Leith, Kirkcaldy or Aberdeen to Portugal as mentioned subsequently. The fleet comprises:

Vessel	Tonnage	Vessel	Tonnage
Abbotsford	2,255	Ettrick	1,380
Borthwick	1,140	Heriot	620
Bucklaw	580	Lanrick	1,160
Cardrona	2,085	Melrose	1,380
Crichton	1,110	Quintin	495
Dryburgh	1,880	Ronan	2,085
Durward	580	Yarrow	1,380
Eildon	2,180		

With a closing date for cargo day before sailing services to the Netherlands are scheduled as follows:

AMSTERDAM			
From	To	Every	Every
Leith	Leith	Mon.	Sat.
Grangemouth	Grangemouth	Wed.	Sat.
Leith	Leith	Thurs.	Tues.
Grangemouth	Grangemouth	Sat.	Tues.

ROTTERDAM			
From	To	Every	Every
Leith	Leith	Tues.	Sat.
Dundee	Dundee	Wed.	Sat.
Grangemouth	Grangemouth	Sat.	Tues.

To Belgium a similar schedule is worked, present sailings being—with calls at Middlesbrough:

ANTWERP			
From	To	Every	Every
Leith	Leith	Sat.	Tues.
Grangemouth	Grangemouth	Every	Fri.
Middlesbrough	Middlesbrough	Every	Fri.
Dundee	Dundee	Fortnightly	
Aberdeen	Aberdeen	As required	As required

GHENT			
From	To	Every	Every
Leith	Leith	Mon.	Fri.
Dundee	Dundee	Every	Fri.
Grangemouth	Grangemouth	As required	As required
Aberdeen	Aberdeen	As required	As required
Middlesbrough	Middlesbrough	As required	As required

Sailings to Dunkirk and to Rouen and Paris in France are run fortnightly from Leith with a similar return frequency from French ports. These services also call at Middlesbrough.

Loading berths are Albert Dock, South Leith and Carron Dock, Grangemouth. Incidentally at Grangemouth the firm of Rankine and Salvesen acts as agents. As Scottish agents for Royal Netherlands Steamship Company, Nederland Line and Holland Africa Line, through bills of lading are issued by Gibson Rankine Line for destinations served by the ocean lines. Full agencies are also maintained in all Continental ports of call.

Unusual Connections

The "stroom" vessels of Holland Steamship Company are well known and have received attention in this series of articles. As far as Scotland is concerned regular services operate to and from Leith, Grangemouth and Amsterdam weekly, with Saturday sailings from Scotland. Holland also has unusual connections with the Scottish east coast. Geo. A. Morrison and Co. (Leith), Limited, being loading brokers for a fortnightly service from Leith to Delfzijl where Cartonexport (Boardexport) N.V. performs a similar function, whilst from Leith on Mondays and Grangemouth on Tuesdays a service is run to Harlingen by Shipping and Coal Co., Limited, with its land vessels. This company also serves Rotterdam (S.M. Merwehaven)

with a Tuesday service from Leith and a Saturday service from Grangemouth.

From the west coast of Scotland to Belgium British and Continental Steamship Co., Limited, maintains a line from Glasgow to Antwerp, Ghent and Terneuzen for which Clyde Shipping Co., Limited, acts as agent in Glasgow. The company has a fleet of vessels ranging from approximately 1,300 to 2,000 tons gross and services are operated in conjunction with its sailings from Belfast, Whitehaven, Barrow and elsewhere.

Other French Connections

France, in addition to the Gibson Rankine sailings and services to its Mediterranean ports, has connections from Grangemouth to Rouen provided fortnightly by Worms-Compagnie Maritime et Charbonniere whilst from Dundee, Kirkcaldy and Leith the Dundee, Perth and London Shipping Co., Limited, maintains its old connections with Le Treport if sufficient inducement offers. Glasgow, too, has direct sailings to and from Rouen and Paris operated by Wm. H. Muller and Co. (London), Limited, a shipowner concerned with other important short sea routes. The m.v. *Somme*, of 451



Services provided by Glen and Co., Limited, between west coast ports and Scandinavia

gross tons and similar vessels maintain a fortnightly service for which John Scott and Co. (Shipping), Limited, acts as agent in Glasgow.

From Glasgow the port of Huelva in Spain is served at approximately monthly intervals by the Baron Line of H. Hogarth and Sons, Limited, which also serves Lisbon, Portugal, on the same schedule. The s.s. *Baron Canador* of 3,721 gross tons was recently engaged on this run loading at Queens Dock, Glasgow. From Ardrossan the vessels of the Cofruna Line (Cia. Frutero-Valenciana de Navegacion, S.A., Valencia) operate to Barcelona, Bilbao and Valencia and traders interested should apply to Leinster and Co., Limited, 44 Leadenhall Street, London, E.C.3, the general agent in the United Kingdom for the line.

Gibson Rankine Line is, as indicated earlier, working regular services from Leith, Kirkcaldy and Aberdeen to Oporto (option Leixoes) and Lisbon. Two sailings a month have been run recently from Scottish east coast to Portugal. Cadiz and Oporto are also on the route of the Moss Hutchinson Line, Limited, Glasgow—Mediterranean, North Africa service with regular sailings.

Mediterranean Ports

Both France and Italy benefit from direct sailings between Glasgow and ports in the Mediterranean operated by Constantine Lines, Limited, which runs a fortnightly service to Marseilles, Genoa, Leghorn, Naples, Catania, Messina and Palermo upon which the m.v. *Avonwood* (1,683 gross tons), m.v. *Garwood* (2,414 g.r.t.), m.v. *Lockwood* (1,689 g.r.t.), and other vessels are engaged. Another service running regularly from Glasgow is worked by John Bruce and Company (Shipping), Limited, which serves Marseilles, Italian and Sicilian ports en route to Egypt. Typical of the vessels operated is the s.s. *Alhama* of 2,346 gross tons.

Although the facilities described above are concerned with the carriage of cargo it is of interest to note that some of the sailings convey a limited number of passengers. For example the Gibson Rankine Line motor vessels *Dryburgh*, *Ettrick*, *Heriot* and *Yarrow* to Amsterdam, Antwerp and Rotterdam. Full details will be supplied on request to shipowners or agents.

NEW COMMER 3-TON RANGE

(Continued from page 3)

In addition, the platform-chassis and front end or complete cab is available in drive-away condition.

The vans are offered with wide hinged side doors, in which form an additional hinged door in the rear side to facilitate loading is available, or with exterior-hung sliding side doors. Both types have double hinged doors at the rear, with a large window in each. The driving compartment doors have full-drop windows and opening quarter-lights. Additional ventilation is afforded by an adjustable vent in the front panel, which also admits fresh air to the optional heater-demister, and an additional roof ventilator is available.

Side-Loading Door

The hinged-door van with additional side door forms the basis of the passenger vehicles and in this case the extra side door incorporates a step which folds down automatically when the door is opened. The 12-seat bus has fully upholstered seats all facing forward and complies with Ministry of Transport public service vehicle requirements. The 14-seat works bus has wooden-slat seats for 11 arranged around the sides of the rear compartment and three upholstered seats in the front. The dual-purpose vehicle provides upholstered seats for eight people, with useful space behind the rear row for luggage; the two rear seats fold down to form a subsidiary floor for normal load carrying.

Prices of the petrol-engined vehicles range from £460 for the chassis-front end in driveaway condition to £685 for the 12-seat bus. In the intermediate range is the sliding-door van, which costs £504. The price of the bus includes finish painting in one of the standard range of five colours. Two-colour finish on passenger vehicles is available at extra cost and the diesel engine adds £112 to all prices.



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* No. 23 appeared December 19, 1959.

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COMMERCIAL VEHICLE TEST

Commer ¾-Ton Forward-Control Van*

OVER 200 CU. FT. LOAD SPACE IN VERSATILE RANGE

ON page 3 of this issue we give broad details of a new forward-control ¾-ton capacity range of goods and passenger vehicles introduced this week by Commer Cars, Limited. Not only is this new range notable for comprising a wide variety of types of bodywork on the one basic structure, all available directly from Commer distributors, but also for being offered with factory-fitted optional diesel power. The choice of engines lies between the Commer four-cylinder overhead-valve 1.5-litre petrol engine, which has gross output of 52 b.h.p. at 4,500 r.p.m. and 76 lb./ft. torque at 2,200 r.p.m., and the Perkins Four 99 diesel, with gross output of 42.3 b.h.p. at 3,600 r.p.m. (the maximum governed speed) and 71 lb./ft. torque at 2,250 r.p.m.

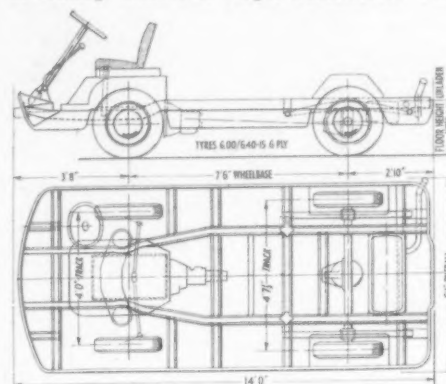
Interchangeable Power Units

The characteristics of the two power units are sufficiently alike to permit direct interchangeability without transmission changes, only the ultimate speed in each gear being rather lower with the diesel engine. Transmission is through an 8-in. clutch, four-speed synchromesh gearbox and hypoid semi-floating axle—all well-proved units in other Rootes Group vehicles. The basic design comprises all-steel welded unitary construction, the substructure of which forms a platform chassis and front panel with deep curved one-piece windscreen, mounted on independent double wishbone-and-coil front suspension units and underslung semi-elliptic rear springs. This structure is convenient for the integration of numerous body styles, those offered by the manufacturer including small passenger vehicles, ambulances, pick-up and drop-side trucks, mobile shops and standard delivery and high-top vans. For private use there are also a caravan and a dual-purpose eight-seat station wagon. Standard vans provide 200 cu. ft. of load-space behind the front seats and an additional 10 cu. ft. beside the driver in an overall length of 14 ft. and width of 6 ft. 1 in.

A great deal of attention has been paid during design and development stages to minimising the inherent disadvantages of full forward-control layout for this class of vehicle, which can be stated briefly as restricted front seat space and a tendency to instability and unequal braking effort in the unladen state, in order to gain the advantages of low tare weight, compact size and high manoeuvrability. For example, the engine is mounted well back from the front panel, its front mountings in fact being positioned over a massive crossmember that supports the front suspension, which has its centreline 3 ft. 8 in. behind the extreme front end of the vehicle. This engine position relieves the front wheels of some of their load and also permits the fitting of three seats abreast in the driving compartment, the centre one over the engine casing, giving generous elbow and leg room and a flat floor ahead of the engine for unimpeded side-to-side movement.

* No. 467 in the MODERN TRANSPORT series of road tests.

Similar careful thought characterises suspension and brake design. Unequal-length wishbones preserve optimum front-wheel alignment under varying loads and stability in cornering is improved by the inclusion of a stout anti-roll bar at the front. The long underslung semi-elliptic rear springs are arranged to provide triple-rate suspension to cover a wide range of load conditions. Hydraulic dampers are fitted all round. With the forward-control layout for vehicles having a payload representing only a small proportion of the all-up weight, front brakes will inevitably be required to do most work, particularly in the early stages of braking, because of weight transference. This



Drawing showing basic structure layout and principal dimensions of Commer ¾-ton goods and passenger range

tendency is provided for in the Commer design by using substantially larger brakes on the front wheels than on the rear. The brakes are hydraulically operated and are 10 in. diameter by 2½ in. wide at the front and 9 in. by 1½ in. at the rear.

Van Variety

Various standard arrangements of van bodywork are offered to suit different purposes, the differences being mainly in the side doors. All types have twin hinged rear doors having a simple manual clip to hold them in the 90-deg. open position and a locking handle. Wide side doors are of the front-hinge type fitted with press-button catches, in which case an extra hinged side-loading door is available, or of the exterior-hung sliding type. There are deep windows in the rear doors and winding full-drop windows and opening quarterlights in the driving compartment doors. With the deep curved windscreen and an interior and two exterior mirrors fitted as standard, the design provides really excellent all-round visibility from the forward driving position.

(Continued on page 13)

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- * Full-forward control 3-seat driver's compartment with panoramic windscreen.
- * Easy loading and unloading—Wide doors at side and rear.
- * Unitary all-steel construction with undersealed bodies gives extra strength and durability.
- * Independent front suspension ensures firm road-holding.
- * Hypoid rear axle for longer engine life and quieter running.
- * 'Easy-ride' rear springing—Extra long underslung leaf springs provide a steady, comfortable ride.
- * Nineteen basic models including vans, light buses, pick-up, dropsider, mobile shop, bottle float, caravan, etc.

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Van with sliding doors, or hinged doors with or without additional side door.

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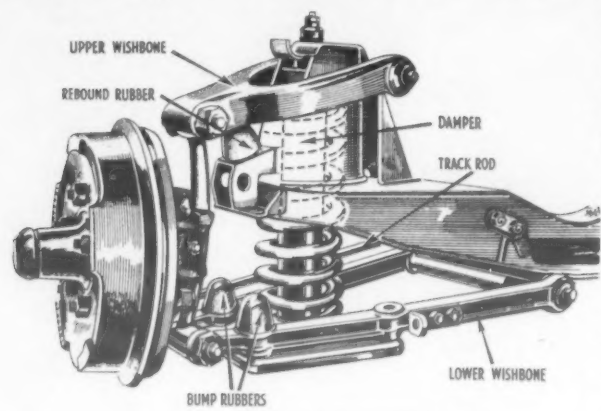
The goods version of the range are designed for a maximum operating weight of 2 tons 1 cwt. The standard petrol-engined sliding-door van has a licensing weight of 1 ton 1½ cwt., leaving the generous margin of 19½ cwt. for petrol (9 gal. = about 60 lb.), payload and driver. The hinged-door van weighs 1 ton 2 cwt. and the side-loading door adds a further ½ cwt. to the tare, while the inclusion of the optional spare wheel and one or two additional front seats will further restrict the

generally at 162 deg. F. We made a mile-long slogging pull up Caterham Bypass on full throttle in the highest gear possible (third and top), deliberately keeping the speed down to about 20 m.p.h. by occasional use of the brakes. A reading taken at the end of the run showed a coolant temperature of only 172 deg. F.

Excellent Stability

Whatever the handling characteristics and stability of the new vehicle in unladen condition, which we did not check, they were certainly faultless with a normal load throughout our day's work on all types of road made wet through almost continuous drizzle and heavier rain. The suspension was firm but comfortable and although the steering had an understeering characteristic, this was consistent and did change abruptly half-way through a bend to an oversteering tendency, as is sometimes the case. Heavy brake applications could be made to lock the rear wheels easily on the wet roads but the skidding tendency was straight ahead and easily controlled.

Because of the wet roads it was impracticable to take measurements of braking distances, but in a series of simulated emergency stops from around 30 m.p.h. Don meter readings from 62 to 75 per cent were recorded, the amount of braking effort that could be used before the onset of skidding depending on the road surface. Our usual fade test on Titsey Hill produced evidence of good resistance to this defect. At the end of a half-mile coasting run down the hill using the brakes to keep the speed between 20 and 25 m.p.h. an emergency stop produced 54 per cent on the



Detail of independent front-suspension unit

effective payload. The diesel-engined van weighs 1½ cwt. more than the petrol-engined version.

Favourable First Impressions

Our road test was of a petrol-engined hinged-door van having the additional side-loading door. With full fuel tank, spare wheel and fitting, the

TEST RESULTS AT A GLANCE

Vehicle Details	Test Results
MAKER: Commer Cars, Limited, Luton, Beds.	ROUTE: Standard route in Kent and Surrey with addition.
TYPE: 3-ton full forward-control van.	CONDITIONS: Mild and wet.
ENGINE: Commer four-cylinder o.h.v. petrol engine; bore 3.11 in. (79 mm.), stroke 3 in. (76 mm.), capacity 91.2 cu. in. (1.494 litres); 52 b.h.p. (gross) at 4,800 r.p.m.; 76 lb. ft. torque at 2,200 r.p.m. Perkins Four 99 1.62-litre diesel engine factory-fitted alternative.	RUNNING WEIGHT: 1 ton 17½ cwt. (1,917.7 kg.) plus crew of two.
TRANSMISSION: Clutch, hydraulically operated 8 in. (203 mm.) dia. single dryplate; gearbox, Commer four-speed synchromesh (ex. first), ratios 4.08, 2.34, 1.52 and 1 to 1 forward, 5.44 to 1 reverse; driveshaft, 2-in. dia. open tubular with Hardy Spicer needle-roller universal; rear axle, hypoid bevel gear with semi-floating shafts, ratio 5.125 to 1 standard, 5.625 to 1 optional.	PAYLOAD: About 15 cwt. (762 kg.).
BRAKES: Lockheed hydraulic (2-l.s. front), 10 in. by 2½ in. front, 9 in. by 1½ in. rear, total lining area 148 sq. in. (942 sq. cm.). Handbrake mechanically linked to rear wheels.	FUEL CONSUMPTION: (1) Over 15 miles continuous running 26.7 m.p.g. (9.4 km./litre) at 28 m.p.h. (46.4 k.p.h.) average speed. (2) Over 8 miles making four stops per mile, 21.3 m.p.g. (7.5 km./litre).
TYRES: 6.00/8-40-15 six-ply rating.	GROSS TON/M.P.G.: 54.7 (19.7 tonnes/km./litre).
WHEELBASE: 7 ft. 6 in. (2.286 m.).	PAYLOAD: TON/M.P.G.: 23 (7.2 tonnes/km./litre).
WEIGHT: Petrol-engined hinged-door van complete in registration order 1 ton 2 cwt. (1,117.6 kg.). Diesel-engined van weighs 1½ cwt. more.	MAXIMUM GRADIENT CLIMBED: 1 in 4½ (23.5 per cent).
PRICE: Petrol-engined hinged-door van painted complete £489. Diesel engine costs £112 more.	TURNING CIRCLE: 39 ft. (11.9 m.) sweep, 36 ft. (10.97 m.) wheeltrack.

two additional front seats, optional heater, fuel test tank and spare fuel, this had an empty tare weight of 1 ton 5½ cwt. leaving a margin of 15½ cwt. for payload and crew. A load of ballast and crew of two brought the gross weight to the recommended 2 tons 1 cwt., at which weight the test was run throughout. On the weighbridge with the crew dismounted, the vehicle scaled 1 ton 17½ cwt., while a front axle weight of 18½ cwt. was recorded with ballast evenly distributed over the floor area.

First impressions were of sleek good looks and full approval of the ease of access, excellent visibility, comfortable driving seat and general positioning of controls and instruments. Despite the forward positioning of the gear lever to keep the floor clear, it was well within comfortable reach of even the short-armed driver, while the brake lever, almost horizontal to the right of the driving seat, also seemed naturally placed. Steering wheel height and angle was well matched to the fixed seat height and fore-and-aft seat adjustment appeared sufficient to meet the needs of variously sized drivers. We did not approve the positioning of the choke and starter controls on the front of the engine casing behind the driver's calves, the starter control particularly proving rather heavy and difficult to operate in this position. Commendable as the use of simple mechanical controls wherever possible may be, the fitting of a solenoid starter control more accessibly would be justified in the interest of drivers engaged in frequent stop work.

Brisk Performance

On the road the Commer proved itself capable of a very brisk performance which, measured on a level stretch of road, gave acceleration figures of 5.1 sec. from rest to 20 m.p.h., 10.2 sec. to 30 m.p.h. and 19 sec. to 40 m.p.h., all being averages of four runs, two in each direction, indicating a nicety of combination of gear ratios and engine characteristics. Despite the fairly high axle ratio of 5.125 to 1, there was no indication of overgearing. The vehicle pulled away smoothly and quietly in top gear from speeds of about 10 m.p.h., taking an average time of 10 sec. to reach 20 m.p.h. and 20.1 sec. to reach 30 m.p.h. Good flexibility and low-speed pulling was also evident in the long pulls up past Croydon Airport on Purley Way and over Worms Heath, both of which were taken comfortably in top gear. The gradient of Worms Heath was taken in particularly fine style, a starting speed of about 45 m.p.h. having reduced by only 10 m.p.h. at the crest.

The vehicle also climbed steeper gradients well, including the 1 in 4½ slope of Succombs Hill. An easy start from rest was made in first gear on the 1 in 5 section, from which acceleration was rapid to 20 m.p.h. and third gear on the less-steep middle section. A restart was just possible on the 1 in 4½ gradient with some early slipping of the clutch and operators whose vehicles regularly have to start fully laden on slopes as steep as this would do well to specify the alternative 5.625 to 1 axle ratio. All controls proved light in action, the clutch being particularly light and smooth in this hill work, while the handbrake easily held the loaded vehicle on 1 in 4½.

With the engine and radiator well boxed in by the casing, we were interested in checking for possible overheating. On a mild and wet day the coolant temperature in the header tank was running

meter and locked the rear wheels. Using the handbrake alone at speeds of about 20 m.p.h. showed 32 per cent readings.

Fuel Consumption

Three checks were made of fuel consumption, all in the fully laden condition—in a 15-mile out-



Nearside view of the hinged-door van fitted with optional hinged side-loading door

and-back non-stop run, in an 8-mile simulated local-delivery run and of total fuel used throughout the day's work. Although nominally non-stop, our standard 15-mile route on A25 was particularly congested on the day of the test and apart from occasional traffic checks we in fact were forced to come to a complete halt on no fewer than five occasions, twice for the traffic lights in Sundridge—an almost unprecedented occurrence. In the circumstances the Commer did exceptionally well to return 26.7 m.p.g. at an average speed of 29 m.p.h. and we have no doubt that the performance would have been 1 or even 2 m.p.g. better under normal conditions on this route.

An indication of the sort of return possible from a fully loaded vehicle in frequent-stop delivery work came from an eight-mile run on A22 and A23, which included Kenley, Purley and Waddon, making four stops each mile and accelerating briskly up to normal traffic speed after each stop. The engine was switched off for a few seconds at alternate stops and allowed to idle at the others. The result was 21.3 m.p.g., a return that would normally be improved on by vehicles operating with less than the rated load.

Overall fuel consumption was particularly favourable, a return of 24.5 m.p.g. being recorded for 125 miles of running, of which about 10 miles was at high speed on M1 and over 20 miles in London suburbs getting from Luton to the start of our standard test route. Much of the remainder was taken up with our various checks, necessitating numerous stops and much full-throttle low-gear work. The results were also achieved on low-priced commercial-grade petrol, which is perfectly satisfactory with an engine compression ratio of 7 to 1, a factor which should be borne in mind when assessing running costs of vehicles in this new range.

A quick repair of a damaged resin-glass ships' lifeboat was recently carried out at Southampton by Fibreclad, Limited, of Lymington, a company which specialises in reinforced plastics mouldings and plastics sheathing of wooden boats. Within five hours of receiving a message in Lymington, the damaged lifeboat was repaired and seaworthy.



BAKELITE plastics go to town in the ROUTEMASTER

BAKELITE Plastics have been used extensively in London Transport's new Routemaster buses, both in the form of Polyester Resins and of VYBAK Decorative Rigid Sheet. The Routemaster is built by Park Royal Vehicles Ltd. to L.T.E. specifications

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New Company Formed With Spitals

THE British company, A.E.C., Limited, and Etablissements Spitals, of Antwerp, jointly announce that they have formed a company, A.E.C. Continental, S.A., progressively to manufacture and market A.E.C. vehicles in Belgium for the Continent. This company will form a base for A.E.C. in Europe and it will strengthen the already excellent after-sales and spare parts service offered by Spitals, which has been the sole distributor of A.E.C.s in Belgium and Luxembourg since 1949. The board of A.E.C. Continental will comprise: Mr. G. Spitals, Mr. M. Spitals, of the Belgian company, and Mr. E. R. Hollands and Mr. J. D. Slater, of A.E.C.

A.E.C. sales in this highly competitive market have been in the capable hands of Etablissements Spitals for the last 11 years and during that time sales have rapidly expanded. A.E.C. Continental, which has large modern premises in Antwerp, imports knocked-down A.E.C. chassis and assembles them for distribution to all Belgian operators. The new company will maintain a close liaison with the A.E.C. Southall factory and keep the designers in intimate touch with what is needed by Belgian and Continental operators.

At this year's Brussels show, which opens on January 16, A.E.C. Continental will exhibit a complete range of tractors, lorries and passenger chassis on its stand.

NEW YEAR HONOURS

(Continued from page 9)

inspector, East African Railways and Harbours; W. E. Williams, principal assistant to the secretary, Bristol Channel Ship Repairers Association; G. H. Winn, airport manager, Blackbushe.

COMPANION OF HONOUR

Right Hon. A. T. Lennox-Boyd, M.P. (Minister of Transport and Civil Aviation, 1952-54).

QUEEN'S COMMENDATIONS FOR VALUABLE SERVICE IN THE AIR

Captain W. M. Jacob, flight superintendent, training, Skyways; Captain T. M. Robertson, managing pilot, Borneo Airways; Captain J. Woodman, senior captain, Boeing 707 Flight, B.O.A.C.

QUEEN'S POLICE MEDAL

W. W. Wood, chief of police, western area, B.T.C. Police.

FORTHCOMING EVENTS

Jan. 11.—Inst. T. P. A. White, "Rail," A. F. Neal, "Road," on "The Problem of the Peak," 88 Portland Place, W.1, 5.45 p.m.
I.R.T.E. (Scott.) P. H. Wyke-Smith, "Taking Stock on Maintenance," Inst. of Engineers and Shipbuilders, Elmbank Crescent, Glasgow, 7.30 p.m.
I.R.T.E. (W. Regional), Discussion Group, Liverpool Architectural Society's Rooms, Bluecoat Chambers, School Lane, Liverpool, 1, 7.30 p.m.
I.Mech.E. Discussion, "Recognition of Deterioration of Lubricants in Service," 1 Birdcage Walk, S.W.1, 6 p.m.
Inst. Traf. A. (Bham), "Port Organisation," Cosmopolitan Club, Fore Street, Birmingham, 7.15 p.m.
Jan. 12.—Inst. T. (Scott.), R. Mackenzie, "The Trend of P.S.V. Design," 23 Waterloo Place, Edinburgh, 5.30 p.m.
Inst. T. (Yshire), J. D. Wardrop, "Traffic Congestion—Causes and Costs," Griffin Hotel, Leeds, 6.30 p.m.
R.C.T.S. (E.M.), G. Barlow, "Recent Developments on the R.H. and D.R.," N.C.S. Guild Room, Toll Street, Nottingham, 7.30 p.m.
I.R.T.E. (S.W.), Dr. H. J. H. Starks, "Research on the Testing and Performance of Commercial Vehicle Brakes," Duke of Cornwall Hotel, Plymouth, 7.30 p.m.
I.R.T.E. (Mlands), W. K. Parker, "Wheels Round the World," Exchange and Engineering Centre, Stephenson Place, Birmingham, 7.30 p.m.
I.Mech.E. D. Downs, "Combustion Chamber Design and the Influence of Fuel Quality," 1 Birdcage Walk, S.W.1, 6 p.m.
R.Ae.S. Anniversary Luncheon, Dorchester Hotel, Park Lane, W.1.
Jan. 13.—S.R.L.D.S. J. H. Scholes, "Transport Treasures," Chapter House, St. Thomas' Street, S.E.1, 6 p.m.
Inst. T. (S.), D. L. Munby, "Some Economic Questions in Transport," Harbour Board, Southampton, 5.45 p.m.
I.R.T.E. (S.E.), E. Kellett, "The Design of Radial-Flow Turbochargers and their Application to Road Transport," Wig and Gown Hotel, Maidstone, 7.30 p.m.
I.R.S.E. E. J. Harris, "Modern Trends in the Design of Signalling Apparatus," Signalling School, Toft Green, York, 5.30 p.m.
I.Mech.E. S. Wise, "The Strength of Rai's with Particular Reference to Rail Joints," 1 Birdcage Walk, S.W.1, 6 p.m.
B.I.R.E. Discussion, "The Reliability, Maintenance and Serviceability of Computers," School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1, 6.30 p.m.
Jan. 14.—Inst. T. (E.M.), G. W. Quick-Smith, "Road Haulage Then and Now, 1933-58," Mechanics Institution, Nottingham, 1 p.m.
Inst. Traf. A. (M'side), Discussion, Stork Hotel, Liverpool, 7.30 p.m.
Jan. 15.—Inst. T. (Swindon), Film Display, Engineering Society Rooms, Swindon, 7.15 p.m.
Inst. T. (Teesside), L. E. Marr, "Shipping—the Short Sea Trades," Cleveland Scientific and Technical Institution, Middlesbrough, 6.30 p.m.
R.C.T.S. (London), E. R. Wethersett, "Several Years of Railway Photography," Railway Clearing House, Eversholt Street, N.W.1, 7.15 p.m.
I.Nav. J. F. Green and A. P. Glenney, "Heading Definition in Commercial Aircraft," Royal Geographical Society, 1 Kensington Gore, S.W.7, 5.15 p.m.
Jan. 16-27.—Brussels Motor Show.
Feb. 18-28.—Amsterdam Motor Show.
Mar. 10-20.—Geneva Motor Show.
Apr. 26-29.—Inst. T. 40th Congress, London.

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The memorial plaque at Wapping Station to which editorial reference is made on page 1

SOCIAL AND PERSONAL

National Dock Labour Board

AFTER consultation with the National Joint Council for the Port Transport Industry, the Minister of Labour, Mr. Edward Heath, has reappointed Lord Crook and Mr. J. C. Poole to be chairman and vice-chairman respectively of the National Dock Labour Board for 1960. He has also appointed the four employers' representatives and four workers' representatives nominated by the National Joint Council to serve as ordinary members on the Board for the same period. They are:

Dock Employers: Messrs. F. D. Arney, general manager, Port of Bristol Authority; J. Morris Gifford, general manager and secretary, National Association of Port Employers; R. H. Hampton, managing director, Scruttons, Limited, and L. Miller.

Dock Workers: Messrs. T. O'Leary, national secretary, docks group, Transport and General Workers' Union; B. Fry, regional organiser, Transport and General Workers' Union; J. N. Lisle, National Union of General and Municipal Workers, and M. Byrne, Scottish Transport and General Workers' Union.

Mr. C. J. Mays, O.B.E., M.Inst.T., schedules superintendent (road transport), London Transport, is retiring on January 23. He joined the London General Omnibus Company in 1916. His successor is Mr. N. S. Eagles, who has been appointed schedules superintendent (road transport) and who becomes an officer of London Transport Executive. Mr. Eagles entered the service of the L.G.O.C. in 1926 and has been employed in the office of the schedules superintendent throughout.

Mr. A. J. Hemens has just retired as divisional shipping manager, Dover, Southern Region, B.R. Mr. Hemens joined the South Eastern and Chatham Railway in 1910, serving as a clerk in various offices prior to his transfer in 1921 to the Continental department at Victoria. From that date until 1946, when Mr. Hemens transferred to the marine department on being appointed assistant divisional marine manager at Dover, he was attached to the Continental department in various capacities, concluding as chief of section (special traffic). During the second

world war, he acted as railway liaison officer with the army in various parts of Southern England, and subsequently was loaned to the Ministry of War Transport for duty in Normandy and later at S.H.A.E.F. On returning to the region he was made acting assistant to the Continental superintendent for special purposes, until his transfer to the marine department. With the creation of the combined shipping and Continental department in October, 1956, Mr. Hemens was appointed divisional shipping manager at Dover, which position he retains up to his retirement. As divisional shipping manager, he was also Belgian consul at Dover and in connection with the state visit of the Italian President in 1958 received the decoration Cavaliere Ufficiale dell'Ordine al Merito della Repubblica.

Mr. R. C. S. Low has been appointed works manager, Horwich works, London Midland Region, B.R.

Messrs. R. T. Gladwin and J. B. L. Hoban have been appointed principal new works assistants of London Transport.

Mr. G. Simpson has been appointed assistant chief of police, British Transport Police, Scottish Area, Glasgow. He succeeds Mr. B. L. D. Lincoln, who is now assistant chief of police, Southern Area.

Mr. D. G. Finley, secretary of Cumberland Motor Services, Limited, has been appointed secretary of Wilts and Dorset Motor Services, Limited, with effect from February 1.

Mr. H. Riggall, D.L., J.P., has resigned from the chairmanship and from the board of directors on his retirement from the managing directorship of Ruston and Hornsby, Limited. Sir Percy Sanders, C.B.E., D.L., deputy chairman, has resigned for health reasons, but remains a member of the board. Mr. W. J. Ruston has been elected chairman, and Mr. V. R. Prehn deputy chairman.

Mr. C. G. Wallace, F.C.I.S., secretary, and Mr. W. Scott, C.A. chief accountant, have been appointed directors of the Metropolitan-Cammell Carriage and Wagon Co., Limited, Saltley, Birmingham. Mr. Scott has been appointed secretary of the company jointly with Mr. Wallace and will continue to hold the office of chief accountant. Mr. P. D. Brunton has been appointed general manager of the bus division of the company.

While the Transportation Club is seeking new premises arrangements have been made for a weekly luncheon in the Elizabeth Room of London Coastal Coaches. The first will be on Thursday, January 14, and subsequent meetings on Fridays, January 29, February 5, 12, 19, 26, and March 4, 11, 18 and 25. Subscribing members are also invited to use the Naval and Military Club during the transition period.

Two papers on "The Problem of the Peak" will be presented for discussion at the meeting of the Institute of Transport arranged for January 11 in the Jarvis Hall, 66 Portland Place, W.1. "Rail" will be dealt with by Mr. P. A. White, line traffic manager, South Eastern Division, Southern Region; "Road" will be dealt with by Mr. A. F. Neal, general manager, Manchester Corporation Transport Department.

A symposium on the use of aluminium in railway rolling stock will be held by the Institution of Locomotive Engineers and the Aluminium Development Association on May 27 in London. The symposium will comprise two sessions: a morning session, in which five papers on design and construction of aluminium railway rolling stock will be introduced and discussed, and in the afternoon eight papers on operation and service experience with aluminium railway rolling stock will be introduced and discussed. It will be held at the Institution of Mechanical Engineers, 1 Birdcage Walk, London. Members of the Institution and their guests will be entertained to luncheon by the Aluminium Development Association on the occasion of the symposium.

B.T.C. Woking Staff College

DIRECTION of the British Transport Commission Staff College at Woking (to which reference is made on page 1) is in the hands of a governing body comprising Sir Brian Robertson, chairman, B.T.C.; Sir Wilfred Anson, formerly deputy-chairman, Imperial Tobacco Company; Sir Henry Willink, member, Eastern Area Board, B.T.C., and Master of Magdalene College, Cambridge; Mr. A. B. B. Valentine, member, B.T.C., and chairman, London Transport Executive; Major-General L. Wansbrough-Jones, secretary-general, B.T.C.; Mr. C. P. Hopkins, general manager, Southern Region, British Railways; and Mr. Anthony Ball, member, L.T.E. The principal is Major-General W. D. A. Williams, C.B., C.B.E., B.A. (former Scholar of Emmanuel College, Cambridge), who until recently was commissioner for transport in the East African High Commission. The director of studies is Mr. M. R. Bonavia, M.A. (former Scholar of Corpus Christi College, Cambridge), who until recently was principal officer (modernisation) in the Eastern Region of British Railways. There are four assistant directors of studies—Messrs. J. Coulthard, former assistant to district goods manager, Bolton, L.M.R.; H. E. Cardy, former works and land assistant, British Waterways; J. F. Rogers, former assistant to district traffic superintendent, Woking, S.R.; and D. Cook, former chief depot inspector, Rye Lane Garage, L.T.E.

Mr. R. P. M. Wormal, who was appointed divisional shipping manager, Dover, Southern Region, B.R., as from January 1, 1960, was educated at Dover College, and joined the Southern Railway in 1947 in the Continental department. After serving in London and Paris he was selected as a traffic apprentice and obtained training in all branches of the commercial, operating and marine departments. Subsequently, Mr. Wormal was reappointed to the Continental department and in 1956 he went to Dover as assistant to the district marine manager, from which position he was promoted in the following year to that of assistant divisional shipping manager.

On December 30 employees of Crosville Motor Services, Limited, foregathered in their recently redecorated works canteen to pay tribute to Mr. W. J. Crosland Taylor, M.C., director and general manager, who was retiring after 40 years with the company. The business was started in 1906 by Mr. Taylor's father and his retirement severs the last family connection. There were 160 people present from all parts of its territory. Mr. G. L. Lindsay, chief engineer, opened the proceedings.



Retirement presentations to Mr. W. J. Crosland Taylor and Mrs. Taylor (see paragraph)

He and Mr. J. Niblock, traffic manager, paid tribute to Mr. Taylor and the quiet, unassuming manner which characterised him so well. Mr. Paul Newnes, the longest-serving employee, a driver at Chester depot, then presented Mrs. Taylor with a transistor radio set. A portable typewriter and a handsome cheque went to Mr. Taylor, who in his speech of thanks recalled the way in which Crosville employees had helped him over every hurdle. The proceedings were pleasantly terminated by the presentation of a bouquet to Mrs. Taylor by Mrs. Gwen Simcock, who has been Mr. Taylor's private secretary for many years.

Lord Chandos, chairman of Associated Electrical Industries, Limited, is paying a visit to India and has been invited by the Indian Government to see some of the important projects in which Britain is helping industrial developments there. He was to leave London by air on Thursday this week, and between then and February 2, when he returns, will have travelled many thousands of miles.

London Transport announces that the garages and depots now grouped in the four Central area engineering divisions (North East, North West, South East and South West) under the control of Mr. K. G. Shave, A.M.I.Mech.E., rolling stock engineer (road services) have been regrouped in three divisions. The divisional engineers are as follows:

Division A: Mr. A. E. Butler, A.M.I.E.E., M.Inst.T. (at present divisional engineer, South West Division).
Division B: Mr. R. G. Hills (at present divisional engineer, North East Division).
Division C: Mr. H. W. Cromack (at present divisional engineer, South East Division).

This reorganisation takes account of the forthcoming retirement in March of Mr. T. J. Stammers, M.M., M.Inst.T., at present divisional engineer, North West Division. Very broadly, division A lies south of the Thames, division B embraces north, north-east and east London, and division C north-west and west London. There will be six district offices within each division.

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IMPORTANT CONTRACTS

Misrair Buys the Comet

THREE Comet 4C aircraft with Rolls-Royce Avon jet engines have been ordered by the United Arab Republic from the de Havilland Aircraft Co., Limited, for service with Misrair. After long and careful study of the types of aircraft available, the Comet has been chosen because of its great flexibility, suiting it for Misrair's varied network, ranging from a nonstop Cairo-London service on the one hand to a short-range Cairo-Beirut service on the other. The Comet 4C has the same lengthened fuselage as the Comet 4B now being built for British European Airways and Olympic Airways, but has the longer-span wing of the Comet 4, which is now in service with B.O.A.C. and Aerolineas Argentinas and is in production also for East African Airways Corporation. It therefore has a combination of the extra load capacity of the Comet 4B together with the additional fuel capacity of the Comet 4, which gives it longer range. Comet 4Cs similar to those ordered by Misrair are shortly going into service with Compania Mexicana de Aviacion S.A.

Swiss Order 240 Land-Rovers

A report says that the Swiss Army authorities are to buy 240 Land-Rovers as replacements for present vehicles. This initial £160,000 order was won against international competition.

Electrics Replace Horses in Durham

An order for 43 electric vehicles, representing a value of £40,000, has been placed by East Durham Co-operative Dairies with Smith's Delivery Vehicles, Limited, to replace in the coming months all remaining horse-drawn vehicles.

New Eastern Region Contracts

Recent contracts placed by the Eastern Region of British Railways include the following:

Clough, Smith and Co., Limited, Crawley, for supply and installation of e.h.v., m.v. and pilot cables, switchgear, transformers and power factor correction equipment in connection with renewal work at 20 substations in the Stratford area.

Samuel Butler and Co., Limited, Enfield, for repairs to two bridges at St. James' Street Station.

W. and C. French, Limited, Buckhurst Hill, for reconstruction of bridge over South Holland Main Drain between Postland and Cowbit, and steel sheet piling along bank of Fossdyke Navigation, between Saxilby and Lincoln.

Nigerian Naval Headquarters Contract

A contract for the construction of a new naval headquarters at Apapa, Lagos, has been awarded to Costain (West Africa) by the Government of the Federation of Nigeria. The £340,000 contract provides for the construction of a jetty, reconstruction of the foreshore, including alongside and holding-off berths, dredging, a double-storey accommodation block, a number of workshops and ancillary buildings, roads and drains. Work will begin in January and is scheduled for completion in 16 months. Consulting engineers for the scheme are Messrs. Coode and Partners, London.

American Orders for Perkins Four 99

Orders for 1,430 Perkins 1.6-litre Four 99 marine and industrial diesel engines, totalling about \$700,000, have been received by Perkins Engines, Limited, from the United States. They include further substantial orders from the Transcold Corporation, Los Angeles, for engines for use in mobile refrigeration units. Perkins Engines has also

received orders for 230 Four 99 marine diesel engines from customers on the Pacific and Atlantic coasts. Deliveries of these engines have already started and most of them are to be installed in resin-glass or plywood launches and runabouts.

London Midland Region Contracts

The London Midland Region of British Railways announces the following contracts:

Cementation Co., Limited, London, S.E.11, for construction of bored piles in the foundations to the proposed bridges within the marshalling yard at Kingmoor, Carlisle.

E. B. Jones and Rawlinson, Limited, Salford 6, for reconstruction of Handforth Station on account of main line electrification.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

January 20—Vietnam.—International Co-operation Administration for 16 OUTBOARD MOTORS, 10 of 3 h.p. at 5,000 r.p.m. and six of 5 h.p. at 5,000 r.p.m. Tenders to the Central Purchasing Authority, P.O. Box 15, Saigon, Vietnam. (ESB/2059/50/ICA.)

January 22—Thailand.—International Co-operation Administration for 507 PNEUMATIC TYRES and 166 TUBES of various sizes. Photocopies of tender documents from Export Services Branch, B.O.T., price 5s. (ESB/2060/50/ICA.)

January 26—Ceylon.—Ministry of Defence and External Affairs for one trailer-mounted MOBILE WORKSHOP. Details and tender forms from the Ordnance Directorate, Army Headquarters, Lower Lake Road, Colombo.

January 28—India.—Directorate-General of Supplies and Disposals for one 2½-cu. yd. DRAGLINE EXCAVATOR with CRANE conversion, one 2½-cu. yd. SHOVEL EXCAVATOR with CLAMSHELL attachment, one ½ cu. yd. CLAMSHELL, seven 40,000-lb. capacity BOTTOM DUMPERS and seven 40,000-lb. capacity REAR DUMPERS. Tender documents available on loan from Export Services Branch, B.O.T. (ESB/27214/50.)

January 29—Portuguese East Africa.—Ports, Railways and Transport Department for 30 railway CATTLE WAGONS, 15 with four axles and 15 with two axles. Specifications and drawings from the Railway Warehouse, Lourenço Marques, through local agents of interested firms. (ESB/25916/50.)

Export Opportunity—Union of South Africa.—Structural Supplies (Pty), Limited, 10-11 Equity Building, cor. Fox and Harrison Streets, Johannesburg, would like to represent United Kingdom manufacturers of RAILWAY TRACK MATERIALS of various types. (ESB/29059/50.)

The general manager of the London Midland Region has received grateful thanks from hospital matrons for gifts of toys and sweets received as a result of the collection made during the Christmas carol concert in the Great Hall at Euston by L.M.R. staff, led by Mr. George Kirby. The Rev. John Borrell, vicar of St. Pancras, is seen at the right



SHIPPING AND SHIPBUILDING

P. and O.-Orient Management Move

UNIFIED management and administration of the P. and O. and the Orient Line is being actively considered, it is announced. The companies point out that virtually the whole business of Orient and the passenger services of the P. and O. depend on owning high-class passenger ships, in which the inevitable trend is towards a diminishing number of units of increasing size and cost. As this trend develops, so the problems both of finance and of economical administration necessarily increase. The P. and O. is considering acquiring the minority of ordinary shares of Orient not now held by it, and the financial advisers of both companies are exploring the basis on which this might be effected. The boards will make a further announcement as soon as possible.

Bristol Year of Records

TOTAL net registered tonnage of shipping arriving in the port of Bristol in 1959 was 6,629,055 tons, an all-time record. The total net registered tonnage of shipping arriving from foreign ports was a record and that of coastal shipping showed a marked increase over the previous year. The total tonnage of cargo handled in the port, 7,244,777 tons, approached the boom year of 1955, when 7,491,088 tons were handled. The total of foreign imports, 3,856,903 tons, was a peacetime record for the second year in succession. Foreign imports of animal feeding stuffs were an all-time record for the second year in succession, but grain imports were slightly lower than the previous year's record figure.

Dock Labour Amendments Inquiry

AT the request of the Transport and General Workers Union, the question as to whether a further list of ports should be included in the dock labour scheme is to be investigated by the committee of inquiry into amendments of the scheme which the Minister of Labour has set up. It will be presided over by a barrister, Mr. Hugh Lloyd-Williams, and will open at Church House, Westminster, on February 23. The ports concerned are: Amble, Keadby, Norwich, Felixstowe, Ramsgate, Dover, Folkestone, Newhaven, Shoreham, Littlehampton, Portsmouth, Watchet and Mostyn.

The terms of reference of the inquiry will be to report on:

- The question whether the list of ports to which the scheme relates ought to be varied;
- The question as to which classes or descriptions of dock workers the scheme should apply in the case of any port recommended to be added to the list; and
- The application of the scheme to work which involves the handling of pit wood and timber.

Some amendments to the scheme have already been agreed on by port employees and trade unions. They do not affect the basic principle of equal representation on boards of employers and dock workers but are designed to make the wording of the scheme clearer and in conformity with established custom and practice. They will require the approval of Parliament.

Social Life Directress on Board

WHEN the *Queen Elizabeth* sailed from Southampton for New York last week she had on board a "social directress," an American-born woman with the rank of officer. She has already made a trip in that capacity in the *Queen Mary*.

Air-Conditioning an Attraction

THREE Union-Castle liners, *Rhodesia Castle*, *Braemar Castle* and *Kenya Castle*, each of 17,000 tons, are to have extended air-conditioning to make them more attractive to tourists. At present only the dining-rooms are conditioned; this will be extended and the number of private showers and bathrooms will be increased. Each ship will be out of service for one voyage.

Atlantic Steam Agent in Eire

THE Atlantic Steam Navigation Co., Limited, announces the appointment of Roche (Shipping), Limited, of 78 Lower Gardiner Street, Dublin, as general agent for the company in the Republic of Ireland, with effect from January 1. The appointment will aid further development of the drive-on-drive-off Transport Ferry Service between the United Kingdom and Ireland, at present maintained by daily sailings between Preston, Larne and Belfast.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

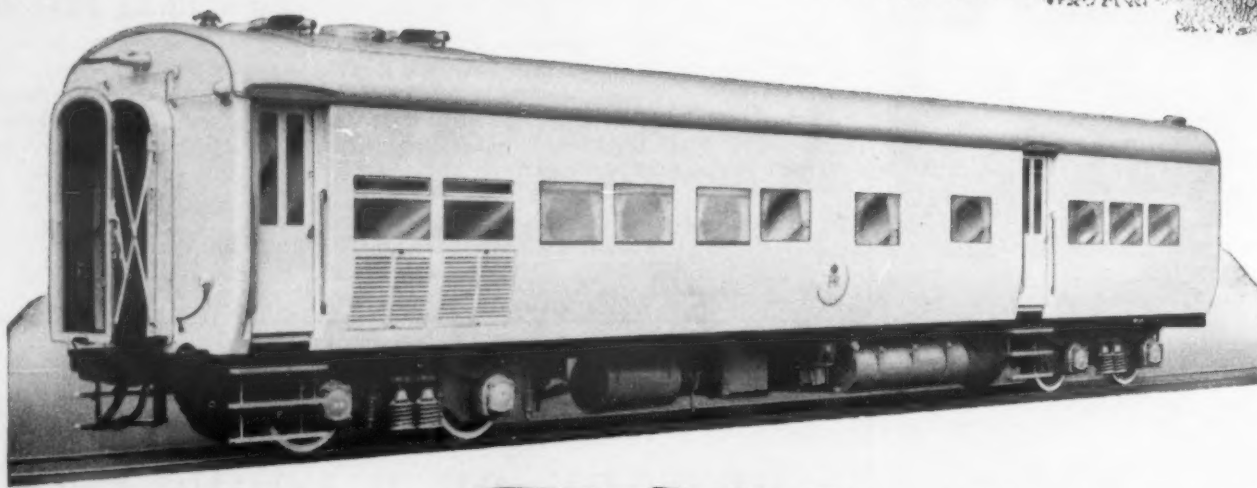
Thomas Harrington

At the annual meeting of Thomas Harrington, Limited, the chairman said that negotiations were in progress which, it was expected, would lead to an offer being made for the whole of the ordinary capital of the company. Further details would be notified to shareholders as soon as negotiations reached a more definite stage, he added.

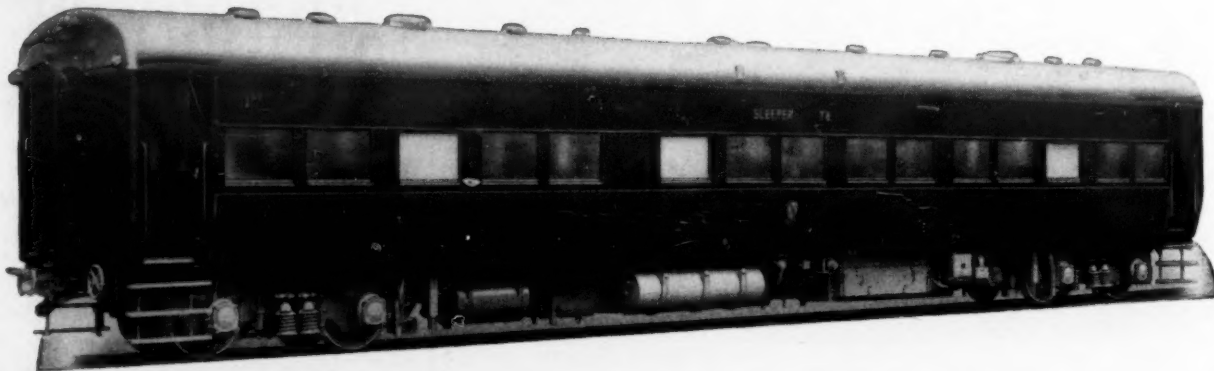
Cleveland Bridge and Engineering

Net profit, after taxation, of the Cleveland Bridge and Engineering Co., Limited, for the year ended September 30, 1959, was £51,248 (£88,412). The most important new contract is that for the Tamar bridge at Plymouth. The chairman, Mr. J. R. Dixon, says that some orders for steelwork are suspected to have been taken in the industry at unremunerative prices.

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comprising nine
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